CORPORATION OF GLASGOW.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

CITY OF GLASGOW.

1920.

Ordered by the Committee on Health to be printed.

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CONTENTS.

PREFACE.

SECTION PAGE
I. POPULATION; new Wards; uninhabited houses; linings granted; temperature and rainfall, ... 11
Reorganisation Scheme, ... 13

II. VITAL STATISTICS, BIRTHS, MARRIAGES, DEATHS, ... 19

III. MATERNITY AND CHILD WELFARE—

Infantile Mortality statistics, ... 25
Memorandum *re* Maternity and Child Welfare Scheme, ... 27
Ante-Natal Consultations, ... 30
Day Nurseries, ... 31
Infant Consultations, ... 32
Supply of Milk to Mothers and Children, ... 33
Country Homes, ... 34
Notification of Births Act, ... 36
Infant Visitation by Health Visitors and Voluntary Visitors, ... 36
Ophthalmia Neonatorum and results of treatment, ... 39
Midwives (Scotland) Act, 1915, ... 41
Puerperal Fever, ... 45

IV. INFECTIOUS DISEASES—

Smallpox Epidemic, ... 47
Vaccination, ... 60
Enteric, Scarlet, Diphtheria, &c., ... 61
Tropical Diseases, ... 64
Other Infectious Diseases, ... 65
Rabies, ... 66
Trachoma, ... 66

V. TUBERCULOSIS—

Statistics of Tuberculosis, ... 68
Institutional Accommodation, ... 73
Southfield Sanatorium, ... 73
Cases and Contacts, ... 76
Respiratory Diseases, ... 78

VI. VENEREAL DISEASE—

Accommodation and Clinics, ... 79
Evening Clinics, ... 79
Accommodation for In-Patients, ... 80
Work of Treatment Centres, ... 80
Work of Broomielaw Dispensary, ... 83
Attendance of Patients for treatment, ... 83

VII. HOSPITALS AND WASH-HOUSES—

Knightswood Hospital, ... 88
Southfield Sanatorium, ... 88
Smallpox Hospital Accommodation, ... 88
Reception Houses, ... 88
Disinfecting Stations, ... 89

VIII. OFFENSIVE TRADES, ... 90

IX. WORK OF PORT LOCAL AUTHORITY—

Ships Arriving, ... 91
Infectious Diseases, ... 91
Aliens Order, ... 92
Nuisances, ... 93
Food Inspection, ... 95

Section X. Housing—
Uninhabitable Houses, ... 99
Housing Procedure, ... 100
Housing and Town Planning, &c., Act, ... 104
Increase of Rent and Mortgage Interest (Restriction) Act, 1920, ... 105
Farmed-out Houses, ... 105

XI. Bacteriological Laboratory, ... 106

XII. General Sanitation—
Divisional Reports, ... 109
Operations under Sale of Food and Drugs Act, &c., ... 112
Air Purification, ... 116

APPENDIX TABLES.

Table I. Estimated Population in Municipal Wards, ... 119
II. Linings Granted by Dean of Guild Court, ... 120
III. Abstract of Meteorological Observations at Glasgow, ... 120
IV. Births and Birth-rates in Wards, ... 121
V. Illegitimate Births and Percentage of Total Births in each Municipal Ward, ... 122
VI. Deaths and Death-rates in Wards, ... 123
VII. Outward and Inward Transfer Deaths, ... 124
VIII. Deaths and Death-rates from different Diseases, ... 125
IX. Sex and Age Distribution of Deaths, ... 126
X. Deaths occurring in Institutions, Nursing Homes, &c., ... 127
XI. Deaths in several Classes of Institutions, ... 127
XII. Deaths under 1 year and Death-rate per 1,000 Births, ... 128
XIII. Deaths under 1 year from several Causes (Males), ... 129
XIV. Do. do. do. (Females), ... 130
XV. Abstract of Notifications under Notification of Births Act, 1907, and results of Visits, ... 131
XVI. Births Notified—Medically and not Medically attended, ... 131
XVII. Cases of Infectious Disease Registered and Number Treated in Hospital, 132
XVIII. Infectious Diseases—Case-rates, ... 132
XIX. Statutory Declarations of Conscientious Objection to Vaccination, ... 133
XX. Hospital Bed Accommodation for Infectious Disease, ... 134
XXI. Number, Average Residence, and Cost of Treatment of Patients in Hospitals, ... 135
XXII. Summary of Operations of Sanitary Section, ... 136

PREFACE.

The present Report continues the information which it has been customary to submit for the wards as they existed prior to November, 1920. At that date they were recast, and three only now retain their former name and boundary. These are Calton, Sandyford, and Cathcart; the others have become so altered that a new grading of death-rates will become established, and ready comparison with former years practically cease, even when the name of the ward has been retained.

The last substantial change in the areas for which local statistics have been prepared took place in 1903, when the old Statistical Divisions of the City gave place to the wards, which have now been rearranged.

The original Statistical Divisions were designed to show the effect on vital phenomena of social conditions and environment which were fairly homogeneous, in order that the results in one area might be compared with those in another where these conditions differed. They were built up from a combination of Census Enumeration Areas—not carved out of the wards—and as constructed no combination of them could represent a ward rate.

By displacement of population from some, and growth in other areas, but most of all by their inability to afford information which would meet the growing interest in ward welfare, they passed out of use, and the local statistics since 1903 have been based on municipal wards.

For the year 1920 the rates have been constructed on the ward populations as constituted prior to November.

There is less homogeneity in the social conditions of the new areas, and the resultant rates may show less contrast than formerly. A few examples from the wards which had high death-rates will illustrate this. Cowcaddens, where the rate was formerly 20 per 1,000, is now divided between Cowcaddens and Woodside, the former including portions of Cowlairs and Townhead, with death-rates of 14 and 17 respectively, and the latter with a death-rate of 15. So also the old Broomielaw Ward, which formerly had a death-rate of 22, now ceases to exist, one portion going to form Blythswood Ward, which now also includes portions of the former Exchange, Blythswood, Park, and Cowcaddens Wards, with death-rates of 15, 12, 13, and 20; the other is joined with Anderston Ward, which formerly had a death-rate of 18.

South of the River similar contrasts may be found. The new Hutchesontown Ward, for example, consists partly of the old, where the death-rate was 18, and of Govanhill, which had a death-rate of 13. New Gorbals Ward combined areas with similar contrasts.

The following is a provisional estimate of the population in the new wards, pending the Census Enumeration.

NEW WARDS—ESTIMATED POPULATION 1920.

Ward			Ward		
No.	Name	Estimated Population	No.	Name	Estimated Population
1.	Shettleston & Tollcross,	32,200	20.	North Kelvin,	26,157
2.	Parkhead,	36,164	21.	Maryhill,	23,777
3.	Dalmarnock,	42,810	22.	Kelvinside,	23,407
4.	Calton,	38,089	23.	Partick (East),	31,721
5.	Mile-End,	27,196	24.	Partick (West),	29,835
6.	Whitevale,	25,821	25.	Whiteinch,	30,808
7.	Dennistoun,	24,716	26.	Hutchesontown,	42,464
8.	Provan,	29,470	27.	Gorbals,	53,570
9.	Cowlairs,	26,509	28.	Kingston,	34,971
10.	Springburn,	17,622	29.	Kinning Park,	38,232
11.	Townhead,	29,756	30.	Govan,	37.423
12.	Exchange,	19,367	31.	Fairfield,	29,832
13.	Blythswood,	16,000	32.	Pollokshields,	19,803
14.	Anderston,	29,870	33.	Camphill,	23,541
15.	Sandyford,	25,052	34.	Pollokshaws,	19,049
16.	Park,	24,319	35.	Govanhill,	33,083
17.	Cowcaddens,	44,116	36.	Langside,	19,336
18.	Woodside.	38,481	37.	Cathcart,	16,363
19.	Ruchill,	25,190			

The death-rate for the City during 1920 was 15·03 per 1,000, the birth-rate 29·6, and the infant death-rate 106. In the early sixties, when the elements of a Public Health Administration first took form, the average annual death-rate was 30·5, the birth-rate 41, and the infant death-rate 166. The population of the census year 1861 was 397,673.

MEAN ANNUAL.

	Population	Number of Deaths	Death Rate per 1,000	Infantile Deaths	
				Number	Rate
1861-70,	434,093	13,226	30·5	2,936	165
1871-80,	501.131	14,311	28·6	3,159	157
1881-90,	536,678	13,141	24·5	2,890	147
1891-1900,	691,897	15,302	22·1	3,461	149
1901-10,	772,816	15,113	19·6	3,267	136
1911-20,	1,027,357	16,972	16·5	3,254	124

During the years 1916-20 the death-rate averaged 15·8, compared with 19·6 during 1901-10.

The birth-rate was 27·9 in the first year of the war, 21·0 in 1918, and 29·7 in 1920, compared with 31·2 in the decade 1901-10.

The marriage-rate was lowest in 1917 (8·3) and highest in 1920 (12·4).

The death-rate for the ordinary infectious diseases, formerly grouped as the principal zymotics, was 1·2 per 1,000, compared with 2·5 in 1906-10, and 2·9 in 1915—the highest during the past decade.

Occasion was taken during the year to consider the question of hospital isolation as affecting the prevalence of three of the principal zymotic diseases —viz., enteric fever, scarlet fever, and diphtheria. The review extended over a period of thirty years for Glasgow and twenty years for the rest of Scotland. The continuous and marked decrease in the prevalence of enteric fever is in striking contrast with the epidemic swing of both scarlet fever and diphtheria—a contrast sufficient to suggest that much remains to be learned regarding the life of the organisms from which these latter arise. A question having arisen regarding the possibility of an insect carrier in scarlet fever, Professor Graham Kerr was good enough to make some inquiry, which I gladly take this opportunity of acknowledging.*

The death-rate from phthisis was 1·06 per 1,000, compared with 1·4 in 1913—the highest annual rate during the past decade.

The infant mortality-rate was 106 per 1,000 births, compared with 149 in the decade 1891-1900, 135 during 1901-10, and 143 in 1915—the highest during the past decade. The rate among legitimate infants was 101, and among illegitimate 108 per 1,000. Among male children it was 115, and among female 92, this being the third year in succession in which the death-rate among female infants has been below 10 per cent.

The number of infant consultations held during 1920 was 1,233, and the total attendances were 44,237. Of those attending, 7,138 were infants under one year, and 2,184 were over that age. During 1919 the total attendances were 24,633. Much of the increase during 1920 was due to the operation of the Milk Order.

SMALLPOX.—The principal feature in the epidemiology of the year was the occurrence of a considerable outbreak of smallpox, the main features of which are analytically dealt with in the report of Dr. Macgregor which is incorporated herewith, and was submitted by him in a paper read before the Royal Society of Medicine (Epidemiological Section)† during the past winter.

Among the many points of interest which the outbreak presented, both administratively (for it created the need for finding other accommodation of a temporary character for the patients in Robroyston suffering from tuberculosis) and as a field study in epidemiology, the outstanding feature was that it presented the first opportunity in Glasgow for many years of observing the behaviour of the disease in a population to which large additions of unvaccinated children were being made annually through neglect of vaccination, which the relaxation of the Vaccination Act (Scotland), 1907, permitted.

Against this, which may be regarded as a factor conferring increased opportunity for spread, there must be put the return to civil life of many persons who had been on war service and had for the most part been revaccinated, and who might therefore be regarded as so many non-conductors of infection distributed fairly evenly throughout the population.

With regard to the value of infant vaccination against both attack and death in the first 15 years of life Dr. Macgregor's Table III is worthy of close examination. Amongst those of this age who presented evidence of having been successfully vaccinated in infancy 29 cases occurred, and none of them proved fatal. But among those of similar age who had not been vaccinated 108 cases occurred, and 37 died.

There is a third group of 19 who had no vaccination cicatrix nor any mark suggesting that they had been vaccinated before exposure to infection, but who believed, or regarding whom their parents stated that they had been vaccinated, and of whom 8 died. In what category are these to be placed? How are we to adjust the absence of cicatrix with the belief that they had been successfully vaccinated? Inquiry into a similar group of cases in the 1903-4 outbreak enabled me to verify the certification of some of those who presented no scar, but regarding whom a statement had been made that vaccination had been performed.

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* See Proceedings of the Royal Society of Medicine, 1920, vol. xiv. (Section of Epidemiology and State Medicine, pp. 1-21. Presidential Address on "The Function of the Isolation Hospital in a General Scheme of Hospital Provision.")

† Ibid., pp. 43-61.

One section of Table III enables us, I think, to adjust the balance by comparing the age at which death occurs among the vaccinated and doubtfully vaccinated in the sense just described.

In contrast with the unvaccinated group, there were no deaths, and only one case under 15 years among the doubtfully vaccinated, so that in freedom from fatal attack at this age these cases are comparable with the vaccinated group; and, if we take both groups together, as this comparison suggests, the death-rate among vaccinated persons is raised to 16 per cent., compared with 36·5 among the unvaccinated.

The second point of importance concerns the age distribution of the cases in relation to the infusion of so many unvaccinated and consequently unprotected children among the population. Early in last century Dr. Robert Watt, commenting on the causes of infant mortality, noted a considerable decrease in the number of deaths from smallpox among young children, consequent on the growth of the practice of vaccination. Subsequent experience of the results of infant vaccination showed that from being a disease common among young children its incidence and fatality were displaced towards adult ages. After years of reasonable effort to promote infant vaccination—that is, up to about 1907, when the Act relaxing its performance was passed—the proportion of children born who were ultimately vaccinated usually exceeded 84 per cent. Fully 10 per cent. had died before vaccination, and less than 4 per cent. remained unaccounted for. Since the passing of the Act, however, the proportion vaccinated has fallen steadily, and in 1918 was only 54 per cent., while in 26·6 per cent. advantage had been taken of the conscience clause. The broad result of this is shown in Dr. Macgregor's Table IV, where he compares the age incidence of the recent outbreak with that of 1901, chosing as the dividing line patients under and over 15. Among the vaccinated group of cases the proportion remained almost uniform in both outbreaks—7·7 per cent. in 1900 and 7·2 per cent. in 1920 were under 15; 92·3 per cent. and 92·8 per cent. were over that age. But among the unvaccinated, while 65 per cent. were under 15 and 34 per cent. over that age in the earlier outbreak, in that of 1920 87·8 per cent. were under 15, and only 12·2 per cent. above it. No stronger proof should be required to establish the contention that infant vaccination protects the early years of life against the disease.

The efforts made by the Health Committee to obtain widespread vaccination during the outbreak made it apparent that decrease in the practice of vaccination of recent years in Glasgow has not proceeded on any reasoned objection to the process, but rather on simple indifference to or ignorance of its value.

The Education Authority rendered signal service to the Health Committee by offering free vaccination to school children, with the result that in the comparatively limited period in which the need was urgent no fewer than 14,848 children, of whom nearly 8,000 had not formerly been vaccinated, were so protected, with the parents' consent.

Venereal Disease.—The growth of the work at the treatment centres during the year is described at length. Of cases presenting themselves for the first time, 826 received indoor treatment and 5,739 were treated at the outdoor clinics. The corresponding numbers in 1919 were 748 and 4,976.

4,279 of the patients were males, 2,286 females; the proportion of females in the total new cases increasing from 26 per cent. in the six months ending 31st December, 1919, to 37·7 per cent. in the corresponding period of 1920. The average duration of indoor treatment was 37·6 days in 1920, compared with 32·7 days in 1919. At the clinics the average number of attendances per new case was 13·8, compared with 9·5 in 1919.

Of greater significance than the increase in cases attending is the prolongation of the period during which patients are willing to undergo treatment. It is a common observation that comparatively few of them will attend clinics until they become non-infective, but cease whenever pain or discomfort is lessened.

As such persons may become active spreaders of the disease, legislation has been suggested with the object of penalising such action when established. It is possible that these proposals are based on too hopeful a view of the willingness of patients to comply with restrictive legislation, and at present there is no way of applying the preventive provisions of the Public Health Act to venereal diseases save by first making them notifiable.

The notification of primary syphilis would be a practicable proposal, because the disease can be treated to a non-infective stage, but gonorrhœa, from the difficulty of establishing a non-infective condition, would present much the same administrative problem as does pulmonary phthisis. A beginning would be made, however, were there power to insist that either or both of the parents of a child suffering from gonorrhœal ophthalmia neonatorum should place themselves under treatment.

Although there is some evidence that the public conscience is becoming awakened to the dangers of promiscuity in sex relationship and to the need for a higher standard of chastity, there is some risk that too much attention may be given to the provision of facilities for treatment and too little to prevention on the basis of avoiding exposure to infection. It is here where opinions regarding the value of ablution centres and preventive measures generally begin to diverge. In theory, at least, local disinfection after the act which exposes to infection should prevent the development of disease, and so far would render an individual and public service which is not disputed. But it is urged that the establishment of such centres would tend to induce more widespread promiscuity, and so ultimately lower the moral standard of the community. Apart from their value to the individual who deliberately exposes himself to infection, the effect which such centres would have on the developing manhood of the population requires to be carefully weighed. To be completely effective, ablution centres are required for women as well as for men. Could we, with any hope of being listened to, appeal to the honour of youth—as all propaganda for the repression of these diseases should do—and then tell him that he might make a safe exchange with chastity at the nearest ablution centre? Yet that might well prove one of the risks ablution centres would bring. To the youth passing into manhood it would become a feature of his environment which he would grow up to regard as in the nature of things, and which he might come to look at in the the light of a local provision for compromising with chastity.

There remains, however, the disconcerting evidence supplied by the number of new cases coming for treatment during the year. The population above 15 years of age may be taken as round about 760,000, from among whom 5,600 new cases would indicate an attack-rate of over 7 per 1,000 annually, and a proportion of these have a double infection.

It is doubtful whether this represents the total number of cases occurring. It does not include those being treated in private medical practice, but it represents a volume of avoidable and preventible disease two and a half times greater than the number of new cases of pulmonary phthisis registered annually, and fully 2,000 more than the total number of new cases of all forms of tuberculosis. The pathological picture which these figures suggest includes more that the immediate patient; wives and children come into it. A considerable proportion—sometimes stated to be at least one-half—of the patients in hospitals for the treatment of diseases of women suffer from the effects of venereal disease. Three-fourths of the offspring of syphilised parents are blighted before birth. One-half of the children in schools for the blind owe their misfortune to venereal disease in their parents. 15 per cent. of the admissions to lunatic asylums arise from one form of nervous disease due to syphilis. The medical and surgical wards of our general hospitals have many illustrations of its later effects.

In face of this there is much reason for questioning the wisdom of depending solely on propaganda and patiently awaiting the advent of the time when man shall have learned to control his sexual impulses. The value of the ablution centre for a civilian population has still to be ascertained—two cases only presented themselves for this purpose during the year at one of the dispensaries. But while such centres are designed to meet the case of the person who has already been exposed to infection, there is another body of argument which proposes to educate the male population in the use of protective applications. There is therefore much need for a formulated public opinion on the question, and these remarks have been written with the hope that discussion may result.

Ophthalmia Neonatorum.—Directly associated with the gonorrhœal form of venereal disease is the occurrence of an inflammation of the eyes in newly-born children, which may lead to impairment of vision or total blindness. Not all the cases are associated with the gonococcus, however, as the definition adopted in the Regulations includes any inflammation of the eyes accompanied by discharge within 21 days after birth. Inflammation is readily prevented, even when infection may be present, by careful attention to the eyes at birth, and its occurrence is a reflection on present midwifery practice. Ophthalmic surgeons state that disinfection of the eyes at birth would effectively prevent it, and there is most urgent need for a general adoption of the practice by accoucheurs. No case of total blindness resulted from this form of ophthalmia during the year, although in ten children the sight of one eye was lost, and in four impaired, as was also the sight of both eyes in two other children.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1920.

SECTION I.

ESTIMATED POPULATION, 1920.

The population of the City as at 30th June, 1920, is estimated at 1,115,230, compared with 1,114,656 in 1919. This represents an increase of 574 and a rate of increase of 0·5 per cent., compared with 0·2 for the preceding year and ·57 as the average annual increase during the decade, 1901-1911. These estimates are based on a return of inhabited houses prepared by the City Assessor as at Whitsunday.

	Population		1920		1919	Average Annual
	1919	1920	Increase No.	%	Increase %	Increase 1901-11
Glasgow (area before extension), ...	864,178	864,518	340	·04	·3	·12
Added area, ...	250,478	250,712	234	·9	–·3	3·13
Glasgow (present area), ...	1,114,656	1,115,230	574	·5	·2	·57

The percentage increase in population is slightly in excess of the previous year—namely, ·5 per cent. against ·2, but whereas the increase in the old City was less than ·1 per cent. that of the added area is equivalent to ·9. As the estimates, however, are based on occupied houses, they probably do not accurately reflect the actual alterations that have occurred. Last year the excess of births over deaths was 15,902, whereas the estimated increase in population is only 574. The following table shows the natural as compared with the estimated increase for several years.

Year	Births Registered	Deaths Registered	Natural Increase Excess Births	Estimated Increase
1913 ...	28,688	17,777	10,911	14,313
1914 ...	29,455	17,719	11,736	26,452
1915 ...	28,090	20,351	7,739	18,647
1916 ...	27,348	16,875	10,473	20,594
1917 ...	24,293	17,079	7,214	10,358
1918 ...	23,733	18,821	4,912	7,175
1919 ...	26,109	18,613	7,496	1,952
1920 ...	32,992	17,090	15,902	574

Very few new houses have been completed for occupancy, although a considerable number of linings have been granted by the Dean of Guild Court. 385 more houses are reported occupied than at Whitsunday, 1919, and only 291 houses remain unoccupied. Many of them are not fit for habitation.

The Dean of Guild Linings for the erection of buildings granted during the twelve months ending 31st August, 1920, include 1,936 houses, all of which, with the exception of 12, were three-apartment, four-apartment, and upwards.

GLASGOW.—INHABITED HOUSES WITHIN THE OLD AREA OF GLASGOW AND IN THE ADDED AREA.

YEAR	AREA BEFORE 1912 EXTENSION			AREA ADDED IN 1912		
		Increase +	Decrease −		Increase +	Decrease −
1911	164,528	...	...	47,530	...	...
1912	164,541	13	...	48,715	1,185	...
1913	166,612	2,071	...	50,340	1,625	...
1914	170,665	4,053	...	51,439	1,099	...
1915	174,078	3,413	...	52,002	563	...
1916	178,042	3,964	...	52,572	570	...
1917	180,040	1,998	...	52,657	85	...
1918	181,491	1,451	...	52,731	74	...
1919	181,895	404	...	52,754	23	...
1920	182,256	361	...	52,778	24	...

UNOCCUPIED HOUSES.

The number of unoccupied houses in the City is now 291, and is the lowest recorded in the present City. Most of these are of one and two apartments. There are practically no three-apartment houses available, and few of larger size.

Year (Whitsunday)	Area (before Extension)	Added Areas	Glasgow (present Area)
1913	16,774	1,936	18,710
1914	12,436	1,040	13,476
1915	8,658	619	9,277
1916	4,275	230	4,505
1917	2,018	116	2,435
1918	1,020	89	1,109
1919	582	57	637
1920	259	32	291

NUMBER OF UNOCCUPIED HOUSES CLASSIFIED ACCORDING TO NUMBER OF APARTMENTS.

	1913	1914	1915	1916	1917	1918	1919	1920
One apartment, ...	4,169	3,566	2,943	1,884	957	587	319	120
Two apartments, ...	9,762	7,399	4,791	1,892	807	344	181	72
Three ,, ...	2,731	1,429	768	179	64	30	21	9
Four ,, ...	954	404	239	55	23	16	13	15
Five ., and up,	1,094	678	536	495	283	132	103	75
	18,710	13,476	9,277	4,505	2,134	1,109	637	291

Appendix Table I contains the detailed ward figures of population and occupied houses for the years 1919 and 1920.

LININGS GRANTED BY DEAN OF GUILD COURT.

Table II in the Appendix contains the statement of linings for new houses granted by the Dean of Guild during the years ending 31st August, 1914 to 1920.

TEMPERATURE AND RAINFALL.

Table III in the Appendix gives an abstract of the meteorological observations taken at Glasgow Observatory during the year 1920, together with the records of rainfall for the preceding years, 1914-1919.

REORGANISATION.

Towards the end of 1919 the Corporation created a Housing Department to meet the demand for houses, which had been accentuated by war conditions and became acute in 1916, when private building temporarily ceased. Several members of the staff were transferred thereto, and opportunity was taken to reorganise the whole Public Health Administration on divisional lines. The following descriptive paragraphs are taken from a report submitted to the Committee on Reorganisation, and the new arrangements became operative on 1st June, 1920.

REPORT *re* REORGANISATION.

In considering the work of the department with a view to its reorganisation it will be convenient to separate that which is essentially local in its character from those other sections which must be carried on at different hours, such as night inspection for overcrowding, &c., or imply special training, as smoke prevention.

It will be desirable also to bring under more general review the inspection of incoming food-stuffs, especially milk, meat, and fish; and thereafter the provision now being developed to deal with the diseases which recent legislation has added to the duties of Local Authorities.

* * * * * * * * * * * *

GROUP I.

Stated broadly, there are in these and all the districts, save an occasional one in the outskirts where two or more functions are discharged by one person, separate groups of Inspectors for (1) Nuisances and the enforcing of certain Bye-laws, (2) Drainage, (3) Workshops, (4) Close and Stair Cleansing, and (5) Dirty Houses and Verminous School Children.

Incidentally it may be observed here that, while the Nuisance Inspectors enforce the Bye-laws for regulating farmed-out houses and houses let-in-lodgings, there is a separate Inspector of Common Lodging-houses and Seamen's Boarding Houses throughout the City, in addition to the Night Inspectors.

The work of these Inspectors is quite apart from all concerned with the occurrence of infectious disease—*e.g.*, Epidemic Inspectors, Checkers of Infected Clothing, Disinfection of Infected Houses, and Visitation by the Nurses engaged in Tuberculosis and Child Welfare. Multiple visitation for closely associated conditions is, therefore, inevitable, and occasion may arise in which several of them may be almost simultaneous. In considering how the time thus lost may be better applied I propose for the moment discarding the existing allocation of functions and personnel and submitting a very short field-study of the question.

In essence it is first of all structural and then functional.

The house may be badly designed or badly built. It may be neglected as a structure, or kept in indifferent repair. Its occupants may have acquired careless habits or become affected with disease. To guide or control these errant functions certain provision is made in Acts of Parliament, supplemented by Bye-laws regulating water supply and water-closets, conditions of occupancy, cubic space, cleanliness of common stairs, closes, and W.C's., cleansing of outhouse roofs and unoccupied cellars.

In the case of regulations which have grown up for the control sometimes of one and again of another phase of the conduct of the occupier, the function has become specialised and personnel fitted into it, while the permanent factor in all is the character of the occupied premises. The latter fact in my opinion affords the solvent of the question of multiplicity.

* * * * * * * * * * * *

The Nuisance, Drainage, and Workshop Inspectors all deal primarily with structure, while the Nuisance and Workshop, together with the Stair Cleansing and Female Inspectors, regulate what I have called function. But there is nothing in function which an efficient Nuisance Inspector is unable to grasp—he does it daily in rural areas—and may include with it the work of epidemic inspection and disinfection.

Workshop Inspection requires knowledge of structure and the application of certain administrative standards for W.C. accommodation, cubic space, and ventilation in places of employment, together with a knowledge of the bye-laws controlling offensive trades.

It includes the visiting of restaurant kitchens for structural purposes only, such places being also visited by the Food Inspectors for unsound food (see under Food Inspectors).

Stair Cleansing.—There is a widespread opinion that present methods are ineffective. It may be right enough in theory to hold that the duty is the tenants'. In practice it breaks down often even when neglect is penalised. In some neighbourhoods the problem does not occur; in others the neglect is clamant. Should not the burden be transferred to the owner or accepted by the municipality, who already cleanse closes and back courts?

Having regard to the districts where it for the most part occurs, the example of New York may be cited. Some years ago the Health Department obtained power to compel the owner to appoint a resident caretaker in all tenements where there was obvious neglect of structure or where it was being let to indifferent tenants. It has the advantage of earmarking the indifferent landlord.

Drainage inspection and the inspection of workshops are simply specialised portions of work implying again a structural knowledge within the grasp of an efficient Nuisance Inspector.

In centralising such functions on the Nuisance Inspector everything depends on his training and qualifications. He should, in my view, have had actual training in building construction—whether as joiner, mason, or plumber—or such equivalent as the technical schools can give. But he should have the familiarity with technical detail which would enable him to meet architects and tradesmen on the basis of an equal knowledge.

Following the detection of structural nuisances or continued neglect of bye-laws there would arise the necessity in some cases for departmental or legal procedure, but this should be taken up by the clerical branch—centralised if possible in an open floor of the extension, instead of being pocketed in separate rooms, as in the present building.

It should be the aim of any reorganisation of this part of the work to release the Inspector, as far as possible, from clerical duties, so that he may have the more time to spend in his district. At present the actual time spent in inspection amounts to about 4½ hours per day.

It may be urged that if the Nuisance Inspector is to take a wider outlook than at present his area will require to be reduced, and to some extent this is true. But the time saved from the multiple visitation of the present would work toward a reduction of staff, the degree or extent of the concentration being mainly influenced by the element of fluctuation in the time required for particular items.

These fluctuations mainly affect two sections of work—(1) drain testing, where a given test may vary in time from half-an-hour to two hours, and (2) the work of the Epidemic Inspector, whose time available for other work would depend on the varying prevalence of infectious disease.

But by concentrating all questions of structure and the enforcement of bye-laws affecting the occupancy of houses, including those applicable to common lodging-houses within his area, on the Nuisance Inspector, and the listing of infected clothing on the Epidemic Inspector, the specialised functions of the Workshop Inspector, the Stair Cleansing Inspector, and the Checker of Infected Clothing would be absorbed in the directions indicated.

Some consideration was given to the possibility of combining in one inspector all the functions above indicated within a limited area, but, for the reasons already stated with regard to the varying time occupied by drain testing and epidemic work, it became clear that concentration on the lines just indicated would be less likely to suffer interruption through fluctuations in work, especially during periods of epidemic pressure.

* * * * * * * * * * * *

Were the Nuisance Inspector to combine with his present duties those of workshop and stairs inspection the staff of these areas would be reduced from 41 to 35, or nearly 15 per cent., without loss of efficiency.

Inspection of Common Lodging-houses.—It is appropriate to this section of the Report to consider the work of the Lodging-house Inspector.

* * * * * * * * * * * *

The work of day inspection is to ensure compliance with bye-laws as to latrine and water supply, cleanliness of clothing and premises, and ventilation. Each Nuisance Inspector in his own area could include these in his tour of inspection, just as at present he takes farmed-out houses and houses let-in-lodgings.

On the other hand the enforcement of the Bye-laws regarding Piggeries, and the inspection of restaurants and places where food is sold, and which the Food Inspectors at present inspect only for food purposes, could be transferred to Food Inspectors for the detection of nuisances also.

Epidemic Inspection.—This forms the other principal section of local work. The wards are allocated as shown in M.O. A. 3 (not published), and the overlap with nuisance inspection in houses is complete. The obvious suggestion is that the same inspector should do nuisances and disease. Were epidemic disease uniform in its prevalence the combination could be provided for, and the time required—or the number of visits per day—calculated. But the demand would be as frequently below the average as above it. In one case time would be wasted; in the other nuisance inspection would be deferred.

But the Epidemic Inspector might help in the detection of nuisances; in the ordinary course of his work he should record nuisances, just as at present he records W.C. accommodation and place of employment in certain diseases. To record in writing as he now transmits verbally the condition of stairs, houses, W.C's., and outhouses would not make undue demands on his time, and would become effective nuisance inspection if passed on to the Superintendent Inspectors. We should thus re-establish in practice a knowledge of the association between environment and disease.

GROUP II.

Smoke Prevention and Night Inspection. — Both groups may be left without further scrutiny. The Smoke Inspector must have a special knowledge of furnace construction and of the heating and air-polluting qualities of the fuel used.

The work of the Night Inspectors is to detect overcrowding in houses under special regulations, including ticketed houses.

GROUP III.

Food Inspection.—The inspection of food is conducted apart from the nuisance districts, and is distributed over four sections of the present organisation :—

(1) The Food Inspectors whose work is described in S.I. (5) (not published). There are 8, with a Superintendent Inspector.

(2) The Inspectors who work under the direction of the Veterinary Inspector, and include the inspection of arrivals under the Foreign Meat Regulations for the Medical Officer of Health.

(3) One Inspector whose duties lie in the fish market and at railway stations for consignments by train.

(4) One Inspector who, along with the inspection of shipping for the detection of nuisances, also inspects food-stuffs arriving on shipboard under the Public Health (Regulations as to Food) Act.

The inspection of foreign meat (item 2 above) and of food-stuffs (under item 4) belong properly to the Port Local Authority, but for convenience may be considered here.

Multiple Visitations.—Illustrations of these are indicated in S.I. (5) pages 2 and 3 (not published). Railway stations are visited for milk and perishable foods by Inspectors under item (1); for consignments of butcher meat by an Inspector under (2); for fish by an Inspector under (3). One competent Inspector could take all three.

Food Inspection.—And so with regard to shops. Butcher shops are visited by the Food Inspectors for cleanliness, and by Veterinary Surgeon's staff for meat.

Restaurants, again, are visited by the Food Inspectors for food purposes; by the nuisance Inspectors for cleanliness and the detection of nuisances; and by the Workshop Inspectors for compliance with regulations under the Factory and Workshop Act.

A slight extension of the visit of one Inspector would save, at least, the time spent by the other two in going there.

Generally, in visiting restaurants and all places where food is prepared or sold —*i.e.*, wherever the Food Inspector must visit for food purposes—he should also note and report on nuisances and the contravention of bye-laws, including cleanliness and structural defects. This would avoid the duplication of visits by the Nuisance and Workshop Inspector, and he could further relieve the Nuisance Inspector by taking over the enforcement of bye-laws regarding piggeries, just as at present he inspects byres.

One incidental but considerable advantage would be that the same group of Inspectors who supervise the preparation and retailing of food-stuffs would also become fully cognisant of the conditions under which all food reached the City.

Nurses and Female Inspectors.—It is preferable to consider these together, as they all overlap. Collectively they number 52, with 1 vacancy.

The Female Inspector is of old standing. Originally her function was to act as a peripatetic adviser on domestic cleanliness. Latterly her functions have supplemented those of the School Nurse by visiting the schools in her area and following verminous children to their homes. The Infant Welfare Nurse and the Tuberculosis Nurse are the creation of specialised legislation and administration by compartments. They should all belong to one corps, and each in her area do the work of all three. The only exception to this, at the moment, would be in the supervision of midwives, which can only be done by holders of the Certificate of the Central Midwives Board, and is at present undertaken by one nurse under Dr. Sutherland. In one town at least in England they are all certified midwives, and hold the certificate of the Sanitary Institute. They can thus act as Inspectors of Midwives, report on overcrowding and dirty conditions, and attend both Infant Consultations and Tuberculosis Dispensaries.

Our Welfare Nurses hold the C.M.B., and most are trained nurses. The Tuberculosis Nursing Staff are all trained nurses.

The female Inspectors' day is for the most part occupied in house inspection. She also visits from 7 to 8 schools on the average per fortnight for verminous children.

The Welfare and Tuberculosis Nurses work independently of each other in areas grouped round the several dispensaries.

* * * * * * * * * * * *

Hospitals.—Bacteriology.—The hospitals stand outside the present remit, but, with the increasing number of diseases which they are now asked to admit and treat, and the widening knowledge of clinical methods which may be applied, there should be an alteration in the method of staffing if they are to maintain a high place in modern medicine.

Primarily their function is to treat the sick; incidentally they should also play a part in training the future practitioner in advanced clinical methods. This latter function can best be realised if the term of service of the Junior Medical Staff is cast on the short-service pattern of the larger general hospitals. This in turn implies a further change by placing the responsibility for treatment under the immediate direction of a clinical staff selected for the purpose on the ground of special knowledge of clinical medicine and applied bacteriology. Vaccines and the administration of sera for prevention and treatment of disease in many forms are now more than an expectation, and the clinical bacteriologist expresses the type of physician who should direct the treatment in all our hospitals.

With this introduction of the clinical bacteriologist the laboratories at the hospitals should be developed to enable them to deal with clinical problems on the spot, and the present Bacteriological Department linked up with them, so that clinical research would be combined with administrative bacteriology.

RECONSTRUCTION.

In the foregoing pages I have endeavoured to give effect to the instruction of the committee by selecting sections of work which illustrate the growth of a department—compartmented by policy and further augmented by the development of new objectives, or the introduction of new legislative purposes. In these circumstances duplication of function and overlapping of personnel was natural, if not also unavoidable. By reverting to the basal factors of physical conditions on the one hand, and disease on the other, I have indicated how we can make a beginning at least of simplifying this by concentrating structural questions on the Nuisance Inspectors, and disease and disinfection on the Epidemic Inspectors, and bringing both to a common focus. So also with the domestic conditions which are prejudicial to health there is a common purpose expressed for the present by the varied functions of the Female Inspectors and the Nurses, who should be united in function as they are in purpose.

In applying these principles of unification to future administration the new functions of the Medical Staff require consideration, for much clinical work formerly undertaken solely in the hospitals has now to be undertaken in the various dispensaries and consultations.

In order to accomplish this the tendency of most recent Public Health enactment is towards the appointment of Specialist Officers. This has resulted very much from the new branches of work. The Tuberculosis Officer from the beginning had relationship with the Insurance Committee, to which has since been added that of the Pensions Committee with reference to both tuberculosis and malaria in ex-soldiers. For purely clinical purposes a good deal can be said in favour of the Specialist Officer, but when applied to massed populations for administrative purposes it discloses its defects. The Specialist Officer acquires a keen sense in the discovery of diseased conditions and their probable development, but only incidentally can he become familiar with the surroundings of home and workshop which may have contributed to the picture of disease as disclosed to him in the dispensary. If he is to aim at prevention more than at devising methods of treatment he must have first-hand knowledge of the physical conditions on which disease may be grafted and in which it may spread. This implies an immediate knowledge of the internal conditions of housing, the prevailing industries, the food supply, the cleansing, the hospital accommodation and provision generally for the treatment of sickness and maternity, and the requirements of child life.

To accomplish this means a recasting of the whole machinery to a considerable extent, and this, I believe, is desirable, both on account of existing demands and also because of the probable extension of the duties of the Health Committee when Local Authority administration is brought into line with the purpose for which the Health Ministries have been formed. Already there is a Memorandum from the Ministry of Health regarding closer co-operation between Education and Local Authorities on the medical inspection and treatment of school children.

It is, I think, a cardinal principle of efficient administration that while executive duties should be distributed purely administrative functions should be centralised. Applied geographically, this points to the provision of Divisional Branch Health Offices, which would gather up the executive officers of the Division and include existing and future dispensaries and consultations in convenient proximity. But the principle may be applied without the structural provision, and would be accomplished by taking units with from 200 to 250 thousand of a population, made up of an appropriate combination of wards on the basis of the proposed redistribution of their boundaries.

An Executive Medical Officer in each area would have associated with him a Divisional Sanitary Inspector, and through him be in living touch with all structural questions affecting health. Similarly through the Clinical Medical Officer of Dispensaries and School Medical Officers of the Division—as circumstances showed them to be necessary—the medical requirements of the Division would come directly under notice.

The central administration would act as a clearing house for disease for all the divisions, and co-ordinate their policy and practice.

Food inspection, smoke inspection, and shipping for the moment remain centralised.

The Chief Divisional Officers, together with the Superintendent Inspector of Foods and the Smoke Inspector, should be eligible for participation in the Government Grant which at present is only available for the Medical Officer and Sanitary Inspector, and, I believe, would add stimulus to the work of the Nuisance and Epidemic Inspectors were a fixed proportion in each division included within this category after approved service.

A. K. CHALMERS.

Sanitary Chambers,
Glasgow, 13th December, 1919.

SCHEME FOR THE REORGANISATION OF THE HEALTH DEPARTMENT.

* * * * * * * * * * *

Recommendations of Committee.

For administrative purposes the City shall be divided into five divisions, as follows:—

(1) Central.—Wards—Anderston, Exchange, Sandyford, Park, Partick East, Partick West, Whiteinch, Kelvinside, and Blythswood.

(2) Eastern. — Wards — Calton, Mile-end, Dalmarnock, Parkhead, Shettleston, Whitevale, and Dennistoun.

(3) Northern.—Wards—Townhead, Provan, Cowlairs, Springburn, Cowcaddens, Ruchill, North Kelvin, Maryhill, and Woodside.

(4) South-Eastern.—Wards—Gorbals, Hutchesontown, Govanhill, Camphill, Langside, Cathcart, and Pollokshaws.

(5) South-Western.—Wards—Kingston, Kinning Park, Govan, Fairfield, and Pollokshields.

* * * * * * * * * * *

STAFF.

Apart from the Veterinary Surgeon and the Bacteriologist and their respective staffs and the temporary staff at present engaged in connection with the supply of milk for infants and mothers, the staff of the department will be distributed as follows, viz.:—

Head Office Staff.

Medical Officer of Health, ...	1	
Assistant Medical Officer, ...	1	
Secretary, ...	1	
Clerks, Typists, Dispensers, &c., ...	34	
Superintendent of Stores, ...	1	
Draughtsmen, ...	3	
Disinfectors, ...	12	
Food Inspectors, ...	10	
Smoke Inspectors, ...	4	
Night Inspectors, ...	8	
	—	75

Divisional Staff.

	Central	Eastern	Northern	S.-East	S.-West	
Divisional Medical Officers, ...	1	1	1	1	1	
Clinical Medical Officers, ...	2	2	2	1	1	
Divisional Sanitary Inspectors, ...	1	1	1	1	1	
Assistant Inspectors, ...	16	16	15	10	10	
Female Inspectors, ...	3	3	2	2	2	
Smoke Testers, ...	2	2	2	1	1	
Tuberculosis and Child Welfare Nurses,	8	11	9	6	7	
General Clerks, ...	3	2	2	2	1	
Tuberculosis Clerks, ...	2	2	2	2	2	
Child Welfare Clerks, ...	2	2	2	2	2	
Typist, ...	1	1	1	1	1	
Total District Staffs, ...	41	43	39	29	29	= 181
						256

VETERINARY SURGEON.

The Veterinary Surgeon shall be subject to the general direction of the Medical Officer of Health in matters of policy affecting the work of the department, but as regards executive functions for which he is statutorily responsible shall be directly responsible to the corporation for the administration of those functions.

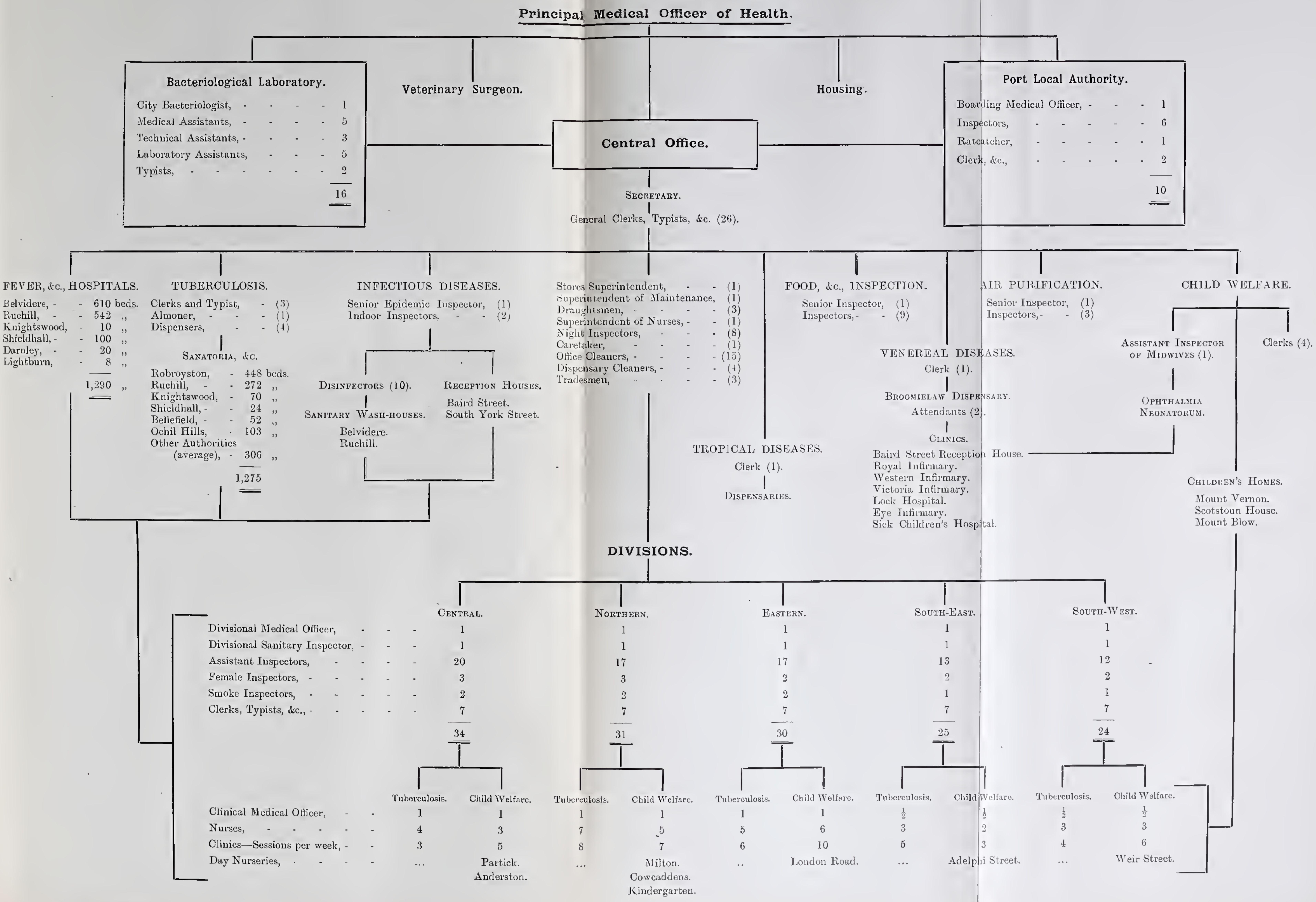
BACTERIOLOGIST.

The Bacteriologist shall be on the staff of the Medical Officer of Health, and shall act under his direction.

The following diagram shows the various sections of the department, and indicates how they are correlated with the rest of the organisation:—

CORPORATION OF GLASGOW. PUBLIC HEALTH DEPARTMENT.

CHART SHOWING DISTRIBUTION AND CO-ORDINATION OF STAFF, &c.



Principal Medical Officer of Health.

Bacteriological Laboratory.

City Bacteriologist, - - - - -	1
Medical Assistants, - - - - -	5
Technical Assistants, - - - - -	3
Laboratory Assistants, - - -	5
Typists, - - - - - - - -	2
	16

Veterinary Surgeon.

Housing.

Port Local Authority.

Boarding Medical Officer, - - -	1
Inspectors, - - - - - -	6
Ratcatcher, - - - - - -	1
Clerk, &c., - - - - - -	2
	10

Central Office.

Secretary.

General Clerks, Typists, &c. (26).

FEVER, &c., HOSPITALS.

Belvidere, - -	610 beds.
Ruchill, - -	542 ,,
Knightswood, -	10 ,,
Shieldhall, - -	100 ,,
Darnley, - -	20 ,,
Lightburn, -	8 ,,
	1,290 ,,

TUBERCULOSIS.

Clerks and Typist, -	(3)
Almoner, - - -	(1)
Dispensers, - -	(4)

Sanatoria, &c.

Robroyston, -	448 beds.
Ruchill, - -	272 ,,
Knightswood, -	70 ,,
Shieldhall, - -	24 ,,
Bellefield, - -	52 ,,
Ochil Hills, -	103 ,,
Other Authorities (average), -	306 ,,
	1,275

INFECTIOUS DISEASES.

Senior Epidemic Inspector,	(1)
Indoor Inspectors, - -	(2)

Disinfectors (10).

Sanitary Wash-houses.

Belvidere.
Ruchill.

Reception Houses.

Baird Street.
South York Street.

Stores Superintendent, - -	(1)
Superintendent of Maintenance,	(1)
Draughtsmen, - - - -	(3)
Superintendent of Nurses, - -	(1)
Night Inspectors, - - -	(8)
Caretaker, - - - -	(1)
Office Cleaners, - - - -	(15)
Dispensary Cleaners, - - -	(4)
Tradesmen, - - - -	(3)

TROPICAL DISEASES.

Clerk (1).

Dispensaries.

FOOD, &c., INSPECTION.

Senior Inspector,	(1)
Inspectors, - -	(9)

VENEREAL DISEASES.

Clerk (1).

Broomielaw Dispensary.

Attendants (2).

Clinics.

Baird Street Reception House.
Royal Infirmary.
Western Infirmary.
Victoria Infirmary.
Lock Hospital.
Eye Infirmary.
Sick Children's Hospital.

AIR PURIFICATION.

Senior Inspector,	(1)
Inspectors, - -	(3)

CHILD WELFARE.

Assistant Inspector of Midwives (1).

Ophthalmia Neonatorum.

Clerks (4).

Children's Homes.

Mount Vernon.
Scotstoun House.
Mount Blow.

DIVISIONS.

	Central.	Northern.	Eastern.	South-East.	South-West.
Divisional Medical Officer, - - -	1	1	1	1	1
Divisional Sanitary Inspector, - - -	1	1	1	1	1
Assistant Inspectors, - - - -	20	17	17	13	12
Female Inspectors, - - - - -	3	3	2	2	2
Smoke Inspectors, - - - - -	2	2	2	1	1
Clerks, Typists, &c., - - - - -	7	7	7	7	7
	34	31	30	25	24

	Central.		Northern.		Eastern.		South-East.		South-West.	
	Tuberculosis.	Child Welfare.	Tuberculosis.	Child Welfare.	Tuberculosis.	Child Welfare.	Tuberculosis.	Child Welfare.	Tuberculosis.	Child Welfare.
Clinical Medical Officer, - -	1	1	1	1	1	1	½	½	½	½
Nurses, - - - - - -	4	3	7	5	5	6	3	2	3	3
Clinics—Sessions per week, - -	3	5	8	7	6	10	5	3	4	6
Day Nurseries, - - - - -	...	Partick. Anderston.	...	Milton. Cowcaddens. Kindergarten.	..	London Road.	...	Adelphi Street.	...	Weir Street.

Public Health Department,
Glasgow, *May*, 1921.

SECTION II.

VITAL STATISTICS.

SUMMARY.

	1918	1919	1920
Population,*	1,112,704	1,114,656	1,115,230
Acreage, ...	19,183	19,183	19,183
Persons per acre, ...	58	58	58
Number of Inhabited Houses, ...	234,222	234,649	235,034
Deaths—Number registered, ...	18,821	18,613	17,090
,, After correction for Institutions, &c.,	18,362	18,237	16,765
Births—Number registered, ...	23,733	26,109	32,992
,, After correction, ...	23,515	25,832	32,631
Death-rate per 1,000 living—All causes, ...	16·50	16·36	15·03
Birth-rate per 1,000 living, ...	21·13	23·18	29·26
Deaths under One Year—Registered, ...	2,649	2,933	3,473
,, ,, ,, After correction, ...	2,660	2,937	3,471
,, ,, ,, Per 1,000 births, ...	113	114	106

* Estimated to middle of year.

The year 1920 closes the second decennium of the present century, and, as the statistics of future years will deal with the new wards, the opportunity has been taken of summarising the more important Vital Statistics since 1903.

In 1903 the municipal ward was adopted for statistical purposes, and the period 1903-5 and the three subsequent quinquennia form the bases on which the ward rates for births and deaths and infant mortality have been summarised, together with causes of death under one year and at all ages.

BIRTHS.

The number of births registered during the year was 32,992, which is the highest recorded in the present City. It is nearly 7,000 in excess of the previous year, and between 9,000 and 10,000 over that of 1918—the last year of war conditions.

The birth-rate on the estimated population is equal to 29·26 per 1,000, a rate which has not been exceeded since 1909, and compares with 23·18 and 21·13 respectively for the years 1919 and 1918.

Table IV in the Appendix gives the number registered and rates in each municipal ward, compared with the corresponding rates for three quinquennial periods and the years 1903-5. Within the old area the average rate has fallen from 31·4 to 23·7 during this period.

The following table shows corresponding rates for Glasgow and Scotland for fifty years:—

	Glasgow	Scotland
1871-80,	36·6	34·9
1881-90,	36·5	32·4
1891-1900,	33·7	30·3
1901-1910,	31·2	28·4
1911,	27·7	25·6
1912,	28·1	25·9
1913,	27·9	25·5
1914,	27·9	26·1
1915,	26·0	23·9
1916,	24·7	22·8
1917,	21·7	20·1
1918,	21·1	20·2
1919,	23·2	21·7
1920,	29·7	—

On the basis of the Registrar-General's Returns, the following comparison is made of the rates for several periods in Glasgow and other towns:—

	1918	1919	1920
Glasgow,	**21·2**	**23·2**	**29·7**
Edinburgh,	14·5	16·6	23·2
Dundee,	16·0	18·7	27·4
Aberdeen,	16·3	20·2	29·5
London,	16·0	18·2	26.5
Liverpool.	21·7	23·2	31·1
Manchester,	17·6	17·7	24·9
Birmingham,	17·9	19·9	27·9

The numbers and rates for the several wards are given in Appendix Table IV.

MARRIAGES.

GLASGOW.—MARRIAGES PER 1,000 PERSONS LIVING.

1871-1880,	9·1	1914,	9·8
1881-1890,	9·3	1915,	10·3
1891-1900,	9·4	1916,	8·6
1901-1910,	8·8	1917,	8·3
1911,	9·5	1918,	9·4
1912,	9·9	1919,	9·0
1913,	9·5	1920,	12·4

This table shows that the marriage rate has remained remarkably uniform at about 9 per 1,000 during the past fifty years, the only marked exceptions being 1915 and 1920.

DEATHS.

On the basis of the Registrar-General's returns, the rates for Glasgow and for several of the large towns in England and Scotland are:—

GLASGOW.—ALL CAUSES—DEATH-RATE PER 1,000 LIVING.

1881-1890,	24·22	1915,	18·76
1891-1900,	21·53	1916,	15·16
1901-1910,	19·56	1917,	15·10
1911,	16·44	1918,	16·50
1912,	16·26	1919,	16·36
1913,	17·14	1920,	15·30
1914,	16·59		

GLASGOW AND SEVERAL TOWNS—DEATH-RATE PER 1,000 LIVING.

	1918	1919	1920
Glasgow, ...	**16·5**	**16·4**	**15·3**
Edinburgh, ...	15·2	16·5	13·3
Dundee, ...	17·4	14·7	15·3
Aberdeen, ...	15·4	14·8	14·6
London, ...	19·2	13·6	12·6
Liverpool, ...	21·9	17·1	16·0
Manchester, ...	18·4	14·4	13·4
Birmingham, ...	15·2	13·7	12·8

After correction for transfers, and on the house estimate of the population, the death-rate for the year was 15·03. This is based on 16,765 deaths, and is the lowest hitherto recorded.

The numbers and rates for the municipal wards are given in the Appendix Table VI, together with the corresponding rates for previous periods. During the past 20 years the death-rate has fallen by over 3 per 1,000, which represents an annual saving of over 3,000 lives on the present population for the City. It would seem that no further reduction can be expected until there is a better knowledge of the conditions which cause death in early infant life and in middle age.

Transfer Deaths.—The deaths on which the above rate is calculated include those of persons formerly resident in Glasgow, but dying in institutions or elsewhere outwith the City. On the other hand those dying within, but with home addresses outside, are excluded. The "inward transfers" numbered 892 during 1920, compared with 932 and 994 for the two preceding years, while the " outward transfers " numbered 1,217, compared with the corresponding figures for the two preceding years of 1,308 and 1,453. The causes of death in both these categories are given in Appendix Table No. VII.

Causes of Death.—The classification of the causes of death is given in Appendix Table No. VIII, with the corresponding rates per million.

The principal causes of death are summarised in the table which follows:—

SUMMARY OF DEATH-RATES PER 1,000 FROM PRINCIPAL CAUSES.

	1918	1919	1920
General Diseases—			
(*a*) Infectious, ...	1·02	1·11	1·22
(*b*) Septic, ...	·06	·07	·13
(*c*) Tuberculous—			
(1) Phthisis, ...	1·24	1·06	1·06
(2) Others, ...	·56	·45	·40
(*d*) Malignant (cancer, &c.), ...	1·05	1·09	1·05
(*e*) Other General Diseases, ...	1·85	1·63	·36
Diseases of the nervous system, ...	1·61	1·56	1·59
Diseases of the circulatory system, ...	1·50	1·59	1·62
Diseases of respiration, ...	3·22	3·27	2 95
Do. digestion, ...	1·03	·98	·63
Congenital defects and malformations (including premature births), ...	·88	·96	1·19
Violence, ...	·50	·51	·67
All other causes, ...	1·98	2·08	2·16
All causes, ...	16·50	16·36	15·03

The death-rate from infectious diseases is 1·22, as compared with 1·02 and 1·11 in former years, and the difference is explained by the 112 deaths from smallpox which occurred during the year. The deaths from smallpox represent a death-rate of ·1 per 1,000 of the population. Enteric fever was more prevalent, the death-rate rising to 27, as compared with the low rate of 14 per million during the year 1919. This increase is probably due to the return of men to civilian work and the inclusion of para-typhoid among the notifiable diseases under the Infectious Diseases Regulations, 1919. The scarlet fever death-rate rose from 44 to 53 per million.

On the other hand the death-rate of measles—279 per million—is again slightly reduced, and is the lowest rate recorded in the City as extended in 1912, while the same observation applies to whooping-cough, which last year was represented by a death-rate of only 130 per million.

Septic diseases have increased from 7 to 13 per million, because of the larger number of cases of erysipelas, and is probably due to the relaxation of some at least of the restrictions on the sale of liquor during the war.

The phthisis death-rate of 106 per million is practically the same as the low rate of 1919, while that of non-pulmonary tuberculosis is 40, compared with 45 and 56 for the years 1919 and 1918 respectively.

The cancer death-rate shows a tendency to increase, although last year's rate of 105 is lower than that of 1919. It is mostly a disease of the older ages, and, as the population tends to become older, with the longer expectation of life, this gradually increasing rate is probably due to the larger number of people living into ages at which this disease occurs. Other general diseases include influenza, and the decided drop from 163 to 36 is due to the non-recurrence of that disease in epidemic forms which characterised its prevalence in the autumn of 1918 and the beginning of 1919.

The only other difference that need here be referred to is the reduction in the death-rate from diseases of the respiratory system, due to the lower prevalence of pneumonia, which also accompanied the influenza epidemic referred to above.

Quarterly Death-Rates.—For comparative purposes a table, based on the Quarterly Returns of the Registrar-General, is here introduced, showing the quarterly death-rates for years 1918-1920:—

GLASGOW.—QUARTERLY DEATH-RATE, 1918-1920.

	1918	1919	1920
First Quarter, ...	14·6	27·1	16·4
Second ,, ...	14·6	14·3	16·7
Third ,, ...	12·7	10·6	11·9
Fourth ,, ...	24·0	13·4	15·1
Year, ...	16·5	16·4	15·3

In Appendix Table VIII the death-rates of several groups of diseases are given for 1920, compared with the average rates of preceding quinquennia.

Age and Sex Distribution of Causes of Death.—Details of these are given in Appendix Table IX. Deaths from erysipelas were more numerous among males in the proportion of 40 to 26 among females, while other septic diseases were also more prevalent among males. The death-rate from pulmonary tuberculosis among males was 25 per cent. in excess of that among females, while deaths from other forms of tuberculosis were in the proportion of 86 males to 49 females. Deaths from alcoholism are usually greater among males, and males also show considerable excess of deaths from nervous diseases, bronchitis and pneumonia, nephritis, and Bright's disease. Deaths from congenital defects and prematurity among males are always much in excess of females—in 1920 the relation was 754 to 562. On the other hand female deaths are in excess in cancer, cerebral hæmorrhage, organic heart disease, and digestive diseases other than diarrhœa, and appendicitis.

Deaths in Hospitals, Nursing Homes, and other Institutions.—The number of these, as indicating institutional facilities required in relation to disease, are at the moment interesting, in view of the present controversy regarding these institutions. Details for the deaths in Glasgow institutions are given in Appendix Table X, which indicates that at least 17 per cent. of the total deaths registered occurred in such institutions. Table XI shows the numbers of those dying in several classes of institutions who had no home address.

Uncertified Deaths.—The number of uncertified deaths has shown a gradual decrease over many years, and during 1920, despite the very much higher birth-rate, the uncertified deaths were only 89, as compared with 124 during 1919. Some part of this reduction may of course be due to the greater medical facilities following the return of doctors from military service. The percentage of deaths not certified under 1 year was only 1·3 during 1920, and 1 per cent. between 1 and 5 years, while that for deaths of illegitimate children under 1 year—1·1—is the lowest hitherto recorded.

	Year	1918	1919	1920
Not Certified, - - - - - -	– 1 year,	35	31	21
	– 5 years,	3	1	—
	5 + years,	44	67	48
No Medical Attendance, - - -	– 1 year,	23	22	10
	– 5 years,	—	—	—
	5 + years,	2	—	1
Dispensary, - - - - - -	– 1 year,	4	3	8
	– 5 years,	2	—	1
	5 + years,	1	—	—
Deaths of Illegitimate Children, - -	– 1 year,	322	317	399
	– 5 years,	130	124	97
Of these not Certified, - - -	– 1 year,	12	10	5
	– 5 years,	—	1	1
Percentage not Certified, - - -	– 1 year,	2·7	3·2	1·3
	– 5 years,	—	0·8	1·0
Deaths of Legitimate Children— Percentage not Certified, - - -	– 1 year,	2·1	1·8	1·1
	– 5 years,	0·2	—	—

LEGISLATION.

During the year the following Acts of Parliament and Regulations dealing with Public Health matters or having a bearing in that direction came into operation:—

(*a*) Blind Persons Act, 1920.

Census Act, 1920.

Increase of Rent and Mortgage Interest (War Restrictions) Act, 1920.

National Health Insurance Act, 1920.

Unemployment Insurance Act, 1920.

(*b*) Aliens Order, 1920.

Port Sanitary Inspection and Port Medical Inspection of Aliens under the Aliens Order, 1920—Conditions of Grant-in-Aid.

Supplementary Instructions to Medical Inspectors under the Aliens Order, 1920.

Additional Instructions to Medicine Inspectors under the Aliens Order, 1920.

National Health Insurance (Termination of Sanatorium Benefit) Regulations, 1920.

Welfare of the Workers Employed in Laundries Order, 1920.

Notification of Chickenpox Order, 1920.

Public Health (Chickenpox) Regulations, 1920.

SECTION III.

INFANT MORTALITY.

The deaths under one year in each ward of the City during 1920, with the relative rates per 1,000 born, are contained in Appendix Table XII. This table also contains a comparison for previous quinquennia and the period 1903-5. The deaths under one year during 1920 numbered 3,471, compared with 2,937, but owing to the large increase in the number of births the infant mortality rate for 1920 is only 106, compared with 114 for the previous year. The rate for the year is the lowest hitherto recorded in Glasgow, the previous lowest rate for corrected deaths being 111 in 1916. The following tables give (1) the death-rates in Glasgow since 1891; (2) the rates in other large towns; and (3) the death-rates among legitimate and illegitimate children per 1,000 births in each category.

Illegitimate children have always had a much higher infant mortality rate than legitimate children, and although recent years, especially 1917-1919, showed an appreciable improvement, the rate last year went up considerably, while that for legitimate children fell 110 to 101.

Infant death-rate during several periods (Glasgow):—

Average of 10 years, 1891-1900,	149 per 1,000.	1915, ...	143 per 1,000.
,, 1901-1910,	135 ,,	1916, ...	111 ,,
1911,	136 ,,	1917, ...	129 ,,
1912,	122 ,,	1918, ...	113 ,,
1913,	129 ,,	1919, ...	114 ,,
1914,	133 ,,	1920, ...	106 ,,

The comparison with several large towns is as follows:—*

	1918	1919	1920
Glasgow.	**113**	**114**	**107**
Edinburgh, ...	94	117	89
Dundee, ...	126	126	131
Aberdeen, ...	143	118	121
London, ...	108	85	76
Liverpool, ...	126	109	113
Manchester, ...	107	97	98
Birmingham, ...	97	89	83

Comparison of death-rates among legitimate and illegitimate children:—

GLASGOW.—DEATH-RATE PER 1,000 BIRTHS.

	Legitimate	Illegitimate		Legitimate	Illegitimate
1899-1900, ...	144	286	1915, ...	140	206
1901-1910, ...	126	457	1916, ...	105	194
1911, ...	127	260	1917, ...	125	169
1912, ...	118	185	1918, ...	108	168
1913, ...	121	227	1919, ...	110	164
1914, ...	127	211	1920, ...	101	181

INFANT MORTALITY IN WARDS.

In the appendix table referred to above (No. XII), the rates are given for each ward. These have always shown considerable variation, those for the better residential wards being low as compared with those obtaining in the poorest industrial wards. In 1920 the rates recorded in Kelvinside and Langside Wards were 38 and 40 respectively, compared with 131 in Blackfriars, 124 in Townhead, and 123 in Mile-End. But these latter rates are relatively low when compared with those of former periods, as will be seen in Table XII. In 1903-5 the rate was 264 in Blythswood; in 1906-10, 172 in Broomielaw; in 1911-15, 208 in Exchange; and in 1916-20, 153 in Blackfriars.

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*From the Registrar-General's Report.

It would seem, therefore, that the efforts to reduce infant mortality have not been without success, although it should be remembered that certain years are more favourable than others, in respect that diseases inimical to child life are sometimes less prevalent. Appendix Tables XIII and XIV give details of the causes of death for each month of life among males and females under one year.

The rates shown in these tables are summarised below, along with the rates for preceding periods. The rate among males is always considerably in excess of that of females, and in 1920, while the rate for males had fallen to 115, that for females was 92. The deaths ascribed to immaturity account for fully one-third of the total deaths. Those from respiratory diseases vary considerably from year to year, but do not show much reduction, while deaths from digestive diseases, although fluctuating from year to year, and invariably high in warm dry summers, show an appreciable improvement.

Tuberculous diseases during recent years are considerably reduced, being on an average in the latter years only 50 per cent. of the rates obtaining in the earlier periods, but the number of deaths from infectious diseases fluctuates with their prevalence from year to year. Last year the latter rate was exceptionally low.

CAUSES OF DEATH.	Average 1903-05	Average 1906-10	Average 1911-15	Average 1916-20	1920
MALES—					
I. Immaturity, ...	49	44	46	46	44
II. Diseases of Respiratory System,	36	29	30	27	29
III. Diseases of Digestive System,	24	23	23	18	15
IV. Diseases of Nervous System,	16	11	10	8	7
V. Tuberculous Diseases, ...	6	6	6	3	3
VI. Infectious Diseases, ...	15	17	18	11	7
VII. Suffocation, ...	1	2	1	—	—
VIII. All other Causes, ...	7	7	12	10	10
All Causes, ...	154	139	146	123	115
FEMALES—					
I. Immaturity, ...	39	36	36	36	35
II. Diseases of Respiratory System,	28	23	24	21	23
III. Diseases of Digestive System,	20	19	19	14	12
IV. Diseases of Nervous System,	12	9	8	6	6
V. Tuberculous Diseases, ...	5	5	4	3	2
VI. Infectious Diseases, ...	15	17	18	11	7
VII. Suffocation, ...	1	2	1	—	—
VIII. All other Causes, ...	4	7	9	9	7
All Causes, ...	124	118	119	100	92

MATERNITY AND CHILD WELFARE SCHEME.

Under the scheme for the extension of the Maternity and Child Welfare services, described in the Annual Report of last year, the most important changes during 1920 were:—

(1) The inauguration of a Child Welfare Centre near Bridgeton Cross.

(2) The transfer to the Corporation of the administration of a Day Nursery and Clinic erected in Weir Street, Kingston, under the Auspices of the American Red Cross.

(3) The transfer of Mount Vernon Country Home from a Voluntary Association.

(4) The opening of Scotstoun House, west of the City, for a similar purpose.

The scheme described in last year's report will of necessity not be wholly realised for some considerable time, and many of the present facilities can only be regarded as temporary expedients, as is indicated in the following memorandum, which was prepared for the information of the Maternity and Child Welfare Committee:—

MEMORANDUM BY THE MEDICAL OFFICER OF HEALTH *RE* EXISTING AND FURTHER PROVISION.

I. Existing.—Under the direction of the committee, there are at present being conducted—

(1) 25 Infant Consultations and 3 Consultations for Children, 1-5 years.

(2) 1 Ante-Natal Consultation—a second beginning in February.

(3) 2 Country Homes in operation and 1 in preparation.

(4) 7 Day Nurseries and 1 Kindergarten.

II. Infant Consultations.—28 consultations are held weekly, in 13 different sets of premises, detailed in Table A. The average number of infants brought to each for the first time varies from 3 to 14 per consultation, and the subsequent attendances from 20 to 44. London Road, being the best equipped, attracts more, the numbers there averaging 14 and 44.

During the three months, September-November, 1920, 1,594 infants were brought for the first time, 7,396 subsequent attendances were made, and the total number of attendances was 8,990 (Table B).

Children over One Year.—In addition, 505 children over one year were brought for the first time, and made 1,261 subsequent attendances, or together 1,766. The combined total attendances of children under and over one year was 10,756 in the three months mentioned.

III. Ante-Natal Consultation.—During the same period 128 expectant mothers attended the Ante-Natal Consultation at the Nurses' Training Home, South Avenue, Govan, and made collectively 222 attendances.

IV. Condition.—Many, most indeed, of the consultation premises are ill adapted for the work. They are inadequately housed, and for this reason insufficiently equipped, so that work is hindered, and the mothers and children in attendance are exposed to considerable inconvenience and discomfort. The following notes descriptive of the conditions will be useful to new members of the committee:—

American Red Cross, 131 *Weir Street.*—This centre is much too small for the work that is being done. There is no waiting-room, the mothers having to wait in the passage, and often outside.

69 *London Road.*—This centre has ample accommodation for large consultations and if the heating arrangements are improved should make a good centre for most activities of Child Welfare work.

Q.M. Settlement, 77 *Port Street.*—Three consultations are held here. The chief disadvantage here is that the two large upstairs rooms are only available for use on Tuesday afternoons, two much smaller downstairs rooms being the only rooms free for our use on Monday and Wednesday, so that the handling of medicines and charts between the two sets of rooms is more difficult; we need another large cupboard upstairs to simplify this. At both consultations only two rooms are available, which is unsatisfactory.

Hill Street Hall, Shettleston.—Here we have three rooms, which, however, do not lead out of one another, so that the mothers and babies have to pass along a cold passage from one room to the other. The waiting-room is a large hall, which is inadequately heated by one stove. The doctor's room is small and dark, lit by a small window in one corner. There the babies have to be undressed, weighed by the nurse, seen and examined by the doctor, and re-dressed, so that the size of the room is quite inadequate. The correct procedure—one mother at a time—is not carried out. No hot water and no lavatory accommodation for mothers. Storage accommodation is poor.

C.O.S. Office, 87 Campbellfield Street.—Accommodation—one room for waiting, weighing, and clerking; large, but not nearly sufficient for work done in it; dirty, no ventilation. At present the weighing is done behind a screen in front of the one fire. The doctor's room is dark and dirty, and only heated by a gas stove, which does not give out the best heat. No lavatory accommodation for the mothers. Washing facilities bad. No cupboard accommodation.

Ruchill U.F. Church Hall, Maryhill.—Accommodation—since February, 1919, we have had the use of a large hall as waiting-room. Though roomy, it is unsuitable, as it is inadequately heated. The undressing and examination by the doctor of the infants is done in another room, which, though of fair size, is not suitable, owing to lack of heating, want of hand basins, and to the fact that the doctor has to talk to the mother in the presence of the other mothers waiting their turn. Here also there is no cupboard accommodation available for our own use entirely, so that charts and other necessities pertaining to Child Welfare work cannot be kept as they should be. As it is a church hall lent to us, nothing is held there but the consultations.

Merryland Street, Govan.—The consultation is held in the Tuberculosis Dispensary; the waiting-room is downstairs, while the weighing and consulting rooms are upstairs. This is unsuitable for consultations for infants and young children.

Cowcaddens Centre, 614 *Dobbie's Loan.*—Consultations are held here on Monday, Wednesday, Thursday, and Friday afternoons, the accommodation available being fairly adequate. The doctor has the advantage of a room to herself, in which she only has one mother at a time; but on busy days the nurses have the disadvantage that they have not a large enough room for weighing the babies in, as the only space available is a corner of the waiting-room screened off, which is draughty in cold weather.

130 *Adelphi Street.*—Here the rooms are most unsuitable, in that (1) the waiting-room is not sufficiently heated and is on one floor, while (2) the one room where the babies are weighed and seen by the doctor is upstairs. This room is small. Lavatory and storage accommodation are bad.

15 *Peel Street, Partick.*—The consultations are held in a shop in Peel Street, the office of the C.O.S. The place is very unsuitable. The mothers wait in an outer room, which is small and very cold. In the inner room about one dozen mothers sit dressing and undressing infants, the nurse weighs and measures infants, while the doctor carries on the consultation.

Townhead Parish Church Hall, Garngadhill.—Consultations are held here twice a week. As has been reported frequently, the accommodation here is most inadequate and unsuitable. It consists of one large room, the church hall, very poorly heated; in winter time it is often too cold to ask the mothers to undress the babies sufficiently for proper weighing or examining. It is very convenient for mothers living at the top of the hill, but is really too much of a climb for many of the mothers who attend.

Elder Clinic, Govan.—These premises are quite good.

Country Homes.

(1) There are two Country Homes for delicate children, Scotstoun House and Mount Vernon House, with 30 and 26 beds respectively. A third is in course of adaptation at Mountblow.

(2) All children admitted to the homes are seen by the Medical Officers of the various consultations and passed by them as suitable, if it is thought that prolonged residence in the country would benefit the children. The chief reason for admission is the presence of rickets; fully 50 per cent. of the admissions are due to this cause. There is need for further provision for children suffering from similar and other conditions.

Most of the mothers contribute 2s. 6d. per week for each child.

The chief defect of both houses is the absence of an admission block for observation, lest the children may be incubating measles, whooping-cough, or other infectious disease.

Number of Children Fed on Glaxo during One Week.

838 packets were given to 467 children; of these 66 packets were given free to 31 children; of the remaining 772 packets, 108 were given at reduced rate, while 664 were sold at cost price. The average age for beginning Glaxo is about three months, and for stopping about 12 months. Where artificial feeding is necessary, Glaxo is frequently recommended for various reasons. The chief is that in many homes dried milk is more easily kept than fresh milk; also the tendency is to keep dried milk for the infant exclusively, and thus the child is often better fed.

DAY NURSERIES.

There are 7 Day Nurseries and 1 Kindergarten, in all admitting about 200 children. The charge is 6d. per day per child.

69 *London Road.*—This Nursery is good. There is accommodation for about 40 children, with one room specially reserved for babies. There is a good playground.

The great defect here is the lack of washing-house and drying-room, but this is now being arranged.

131 *Weir Street.*—This Nursery is also good. As there is only one room, young infants are not admitted. There is a good playground. There is accommodation for 30.

132 *Adelphi Street, S.S.*—This Nursery is not so good in that the only space for recreation is a grass plot in an adjoining street; the children play in it in summer months only. There is accommodation for about 38 children.

Milton Nursery, 42 *Windsor Terrace.*—This Nursery is good internally, but bad in that it has no playground. There is accommodation for about 45 children.

Anderston Nursery, 83 *Port Street.*—This Nursery is bad. It is a small ground flat in a tenement, with no playground. It is to be vacated in May, 1921.

Partick Nursery, 6 *Wilson Street*, is bad, but the recent grant of ground in Douglas Street as playground for the Nursery children will improve conditions. There is accommodation for 12 children. It should be transferred to the vacant ground.

Cowcaddens Nursery, Elgin Place Mission Hall, Ann Street, is very bad, but, as it is only temporary until the new Nursery is built in Stewart Street, it is unnecessary to enter into details.

Phœnix Park Kindergarten is good, with accommodation for 30 children, from 2½ to 5 years of age.

FURTHER PROVISION.

(*a*) *Homes for Mothers.*—The committee have recently had under consideration the provision of Homes for mothers and children—together or separately, as the particular circumstances demanded. The question had special reference to the requirements of the unmarried mother and her child, but reasons were advanced in committee for making such provision equally available for the married mother requiring assistance in this form. Before any house is specially acquired for this purpose, it would seem desirable to gain some experience in a tentative way. This could be acquired by the introduction of a limited number of mothers to one or other of the existing Homes.

(*b*) *Dental, &c., Provision.*—There is also need for provision of special services at Child Welfare Centres, dental and otherwise, but most of our consultations are held in premises which do not afford suitable accommodation for the purpose. It would be possible, however, to arrange a dental clinic at London Road, Cowcaddens, and Elder Clinics. Children and mothers attending other consultations could be referred to these, or, by arrangement, to special treatment centres of the Local Education Authority.

(*c*) The most urgent need of the moment is the adequate housing of the consultations. The London Road Centre is developing a class for mothers, and the proposed Shettleston Centre will give an opportunity for providing a Maternity and Child Welfare Centre on adequate lines.

If an ideal Welfare Centre is to be established in any district, the accommodation should include the following:—

1. *Resident*—
   - (*a*) Maternity and Rest Homes for mothers.
   - (*b*) Hostel for babies temporarily deprived of the mother's care; *e.g.*, during illness of mother.
   - (*c*) Observation beds for babies.
2. *Non-Resident*—
   - (*a*) Kindergarten.
   - (*b*) Day Nursery.
   - (*c*) Consultation Centre, with large waiting-room, two weighing-rooms (with dressing-rooms attached), and two consulting-rooms. In addition to these main rooms, it is necessary to have ample store accommodation.

The South-Eastern District and Maryhill, as well as Shettleston, are each in need of such a Centre.

In laying down new Centres, the amalgamation of some part at least of the dispensary work for tuberculosis (especially surgical) should be considered.

A. K. CHALMERS.

Sanitary Chambers,
Glasgow, 21st January, 1921.

TABLE A.

Statement of Infant Consultations.

	Monday	Tuesday	Wednesday	Thursday	Friday	Weekly Number of Consultations.	Attendance		
							Average Daily Primary	Subsequent	Daily Total
Weir Street,	2 o'clock	—	—	10.30 a.m.	—	2	5	20	25
London Road, ...	2 ,,	—	2 o'clock	2 o'clock	2 o'clock	4	14	44	58
*High Street, ...	—	10.30 a.m.	—	10.30 a.m.	—	2	8	22	30
Port Street, ...	10.30 a.m.	2 o'clock	10.30 a m.	—	—	3	5	20	25
Shettleston, ...	—	10.30 a.m.	—	10.30 a.m.	—	2	4	22	26
Campbellfield Street,	—	2 o'clock	—	—	—	1	8	35	43
Maryhill, ...	—	—	10.30 a.m.	—	—	1	4	24	28
Merryland Street,	—	—	10.30 a.m. 2 o'clock	—	—	2	3	20	23
Cowcaddens, ...	2 o'clock	—	—	2 o'clock	2 o'clock	3	7	27	34
Adelphi Street, ...	10.30 a.m.	—	—	2 o'clock	10.30 a.m.	3	6	24	30
Partick, ...	—	—	—	10.30 a.m. 2 o'clock	—	2	5	28	33
Garngad, ...	—	10.30 a.m.	—	—	10.30 a.m.	2	5	25	30
Elder Hospital, ...	—	—	—	—	2 o'clock	1	5	23	28
						28			

* Since beginning of year it has been found more convenient for the children attending the Centre to be taken to London Road and Cowcaddens Consultations.

TABLE B.

Total Attendances at Consultations for September, October, and November, 1920.

	Under 1 year		Over 1 year		Total		
	Primary	Subsequent	Primary	Subsequent	Primary	Subsequent	
September,	563	2,582	141	383	704	2,965	= 3,669
October,	564	2,471	193	407	757	2,878	= 3,655
November,	467	2,343	171	471	638	2,814	= 3,452
					Total,	- -	10,756

Average Attendances at Special Consultations for Children over 1 year

Adelphi Street, - - -	12
Cowcaddens, - - - -	15
Port Street, - - - -	14

Attendances at Govan Ante-Natal during September, October, and November

	Primary	Subsequent	
September, -	34	38	= 72
October, -	48	16	= 64
November, -	46	40	= 86
			222

Since the foregoing Report was submitted to the Committee, improvements have been affected at Adelphi Street and Cowcaddens Consultations and also at London Road Day Nursery.

ANTE-NATAL CONSULTATIONS.

Glasgow Royal Maternity Hospital. — The arrangement of special facilities for ante-natal work at the Royal Maternity Hospital still continues in force, although during the year it became necessary to adjust the agreement in respect of the charges for these services.

A comparison with the previous year shows that the total number of cases attending the dispensary for the first time increased from 1,749 to 2,126, while the total attendances were respectively 3,960 and 5,151. During 1920, 833 cases were treated to a termination in delivery. The number admitted to the ante-natal wards during 1920 was 803, compared with 703 in 1919. At the infant consultations held at the Maternity Hospital there were 3,631 attendances, as compared with 2,589 during the previous year. The first attendances increased from 530 to 901.

	Aug. to Dec. 1918	1919	1920
Ante-Natal Dispensary—			
Number attending for first time, ...	430	1.749	2,126
Total Attendances, ...	1,134	3,960	3,151
Number treated to a termination in delivery,	234	663	833
Number sent to Hospital from Dispensary—			
(*a*) for confinement, ...	147	465	642
(*b*) ,, treatment, ...	23	117	165
(*c*) ,, miscarriage, ...	—	40	60

	Aug. to Dec. 1918	1919	1920
Ante-Natal Wards—			
Average number under treatment, ...	11	28	22
Number admitted, ...	162	703	803
Total Days, ...	2,660	10,318	7,974
Condition on dismissal:—			
(1) Recovered, ...	70	191	120
(2) Improved.	41	158	210
(3) Confinement completed, ...	53	338	437
(4) Died, ...	7	8	11
(5) Left against advice, ...	1	—	—
(6) No change, ...	—	—	34

	Aug. to Dec. 1918	1919	1920
Infant Consultation—			
First Attendances, ...	223	530	901
Subsequent Attendances, ...	868	2,059	2,730
Total, ...	1,091	2,589	3,631

Govan Nurses' Home (Govan).—The number attending the Ante-Natal Dispensary of the Nurses' Training Home, Govan, were as follows:—

First Attendances, 383; Subsequent Attendances, 166—Total, 549.

Of the cases attending, 247 were first pregnancies and 136 subsequent pregnancies. The following statement shows the condition of these:—

Albuminuria, ...	21	Phthisis Pulmonalis, ...	1
Contracted Pelvis, ...	19	Bronchitis, ...	5
V.D., ...	7	Exhaustion, ...	5
Varicose Veins, ...	31	Indefinite Debility, ...	17
Anaemia, ...	19	Nothing abnormal detected,	156
Constipation, ...	78		
Dental Sepsis, ...	19	Total, ...	383
Cardiac Disorder, ...	5		

Information is available for 378 cases, of which 366 were born alive, 351 full time, and 15 premature, while 12 were still-born (2 full time and 10 premature).

DAY NURSERIES.

During 1920 the lease of premises of Cowcaddens Day Nursery expired, and arrangements were made to carry on the work in a hall in the immediate vicinity belonging to the Elgin Place Church. This is a temporary arrangement, as the Child Welfare Committee have approved of a plan to provide the necessary accommodation in vacant ground at the corner of Stewart Street and Stirling Street.

In Kingston the Corporation are carrying on a Day Nursery and Clinic, begun in the American Red Cross Child Welfare Centre, Weir Street, which has accommodation for 30 children.

The number of Day Nurseries now under the administration of the Corporation is 8, including one Kindergarten, and as reference has been made to them elsewhere the following figures are all that need be added to complete the record:—

Nursery.	No. of days open.	Total Attendances during the year.	Average.
London Road, ...	235	6,279	27
Cowcaddens, ...	250	3,182	13
Phœnix Park Kindergarten, ...	182	3,620	20
Milton, ...	271	8,729	32
Anderston, ...	277	1,983	7
Partick, ...	275	3,608	13
Hutchesontown, ...	256	6,240	24
Weir Street, ...	221	4,689	21

INFANT AND CHILD WELFARE CONSULTATIONS.

The following table shows the attendances at each consultation during the year, and also in 1919:—

Attendance at Infant Consultations, 1920.

	No. of Consultations.	Children—1 Year. No. of Attendances.		Children+1 Year. No. of Attendances.		Total No. of Attendances.		1919 Total No. of Attendances	
		Primary.	Subsequent.	Primary.	Subsequent.	Primary.	Subsequent.	Primary.	Subsequent.
Weir Street, - -	92	342	1,647	157	305	499	1,952	[1]58	[1]144
London Road, - -	117	1,062	4,202	330	639	[2]1,392	[2]4,841	[2]582	[2]1,913
Adelphi Street, - -	149	844	2,893	172	402	1,016	3,295	551	2,268
Port Street, - -	129	537	2,174	186	598	723	2,772	431	2,229
Cowcaddens, - -	115	758	2,901	105	296	863	3,197	376	1,149
High Street, - -	88	648	2,087	200	316	848	2,403	776	1,798
Maryhill, - - -	49	291	1,268	70	107	361	1,375	204	756
Shettleston, - -	95	451	2,230	144	211	595	2,441	319	1,480
Partick, - - -	97	543	2,426	247	708	790	3,134	268	1,586
Garngad, - - -	65	355	1,655	131	638	486	2,293	222	1,282
Merryland Street, -	95	280	1,236	187	657	467	1,893	315	1,703
Elder Hospital, - -	48	330	1,095	—	—	330	1,095	309	1,107
Campbellfield Street, -	94	697	3,429	255	795	952	4,224	512	2,295
	1,233	7,138	29,243	2,184	5,672	9,322	34,915	4923	19,710
Ratio, 1st to Total Visits, ...						44,237		24,633	
						10 to 38.		10 to 50.	

[1] Began November, 1919. [2] Transferred from Brown Street, September, 1920.

The illnesses, &c., recorded at the consultations are here summarised:—

Infant Consultations.—Illnesses, &c., recorded.

	1918	1919	1920
Birth Debility, ...	43	48	42
Prematurity, ...	—	4	53
Marasmus, ...	51	103	213
Congenital Defects—			
Spina Bifida, ...	1	—	—
Heart Disease, ...	—	—	—
Phimosis, ...	—	—	—
Hare-lip, ...	1	—	—
Digestive Disorders—			
Malnutrition, ...	—	—	227
Diarrhœa, ...	1	8	10
Enteritis, ...	—	4	5
Gastritis, ...	—	2	—
Carry forward, ...	97	167	550

INFANT CONSULTATIONS.—ILLNESES, &c., RECORDED (*Continued*)—

	1918	1919	1920
Brought forward,...	97	167	550
Respiratory Diseases—			
Bronchitis, ...	17	58	16
Pneumonia, ...	3	18	12
Tuberculosis, ...	1	—	1
Syphilis, ...	12	2	21
Ophthalmia Neonatorum, ...	6	—	—
Measles, ...	1	—	1
Whooping-Cough, ...	8	9	—
Chickenpox, ...	1	—	—
Scabies,...	43	22	12
Rickets, ...	5	65	18
Impetigo, ..	—	1	—
Eczema, ...	6	3	—
Meningitis. ...	3	—	—
Imbecile, ...	—	—	—
Ophthalmia, ...	—	—	1
Others, ...	—	—	1
TOTAL, ...	203	347	633

SUPPLY OF MILK TO MOTHERS AND TO CHILDREN UNDER 5 YEARS OF AGE.

Towards the end of the year 1919 the high price of milk reduced the quantity sold in the poorer districts of the City, as ascertained by inquiry, and after consideration of a statement the Child Welfare Committee authorised a scheme for the provision of milk, free or at reduced prices in necessitous cases, to expectant and nursing mothers and to children under 5 years of age.

The scheme began in January and continued till June, when the price of milk was sufficiently reduced to render its continuance unnecessary.

The following is taken from a report submitted subsequently to the Child Welfare Committee, and summarises the procedure, the standards adopted, and the numbers supplied:—

SUPPLY OF MILK TO MOTHERS AND TO CHILDREN UNDER FIVE YEARS.

Statutory Powers.—Arrangements for the supply of milk by the Local Authority to mothers and young children come within the scope of schemes of Maternity Service and Child Welfare under the Notification of Births Act, 1915.

By Regulations, dated March, 1916, the Local Government Board for Scotland specified the conditions under and the items in respect of which the Government Grant of 50 per cent. of the expenditure by Local Authorities in connection with the health of expectant and nursing mothers and of children under five years would be granted. The provision of milk and other foods, including patent foods and prepared or modified milk, was, however, excluded.

In a circular letter, dated 25th October, 1916, which outlined schemes of Maternity Service and Child Welfare, the Board asked for information regarding the nature of local arrangements for supplying milk and other foods, including patent foods and prepared or modified milk, to mothers and children.

In a further circular, of 15th May, 1917, it was stated that the supply of milk to expectant and nursing mothers and children up to five years would, in necessitous cases, rank against the grant.

In August, 1917, fresh Regulations extended the application of the grant so as to include the supply of milk and dinners to expectant and nursing mothers, while further Regulations, of May, 1918, again extended the provision of food (including milk) to be made by a Local Authority and approved by the Board, but in September, 1918, Orders were made under the Defence of the Realm Regulations which enabled Local Authorities and empowered the Board to require such Authorities to arrange for the supply of food and milk for mothers and children. These Orders, I am informed by the Scottish Board of Health, are still in force.

Previous Action.—During the winter of 1919-20 the milk prices fixed for November were 2s. 8d., 3s. 3d., and 3s. 8d. for producer, wholesaler, and retailer respectively, and for the following three months 3s. 3d., 3s. 5d., and 4s., or 6d. per pint.

The effect of these prices became rapidly apparent in the diminished use of milk, especially for children 1-5 years, in many households. A rapid survey of the conditions was made and reported to the Child Welfare Committee, who authorised the introduction of a scheme of milk supply within the limits of the Orders—namely, "where such provision is certified by the Medical Officer of the Centre or the Medical Officer of Health as necessary, and the circumstances are necessitous."

This scheme was begun in January, 1920, and information is given below as to the number of applications received and the quantity and cost to the Corporation of milk granted.

Summary of Applications.—The following table summarises for the first half of the current year the number of applications and the quantity of milk issued, the irregularity in the periods being accounted for by alterations in the cost of milk:—

Period—1920	Applications.			Average No. of Pints granted per day
	Received	Rejected	Granted	
5 weeks ended 7th February,	3,995	1,304	2,691	—
Weekly average,	799	261	538	1,127
3 weeks ended 28th February,	1,374	374	1,000	—
Weekly average,	458	125	333	671
5 weeks ended 3rd April,	1,238	148	1.035	—
Weekly average,	248	30	207	521
6 weeks ended 15th May,	1,040	239	775	—
Weekly average,	173	40	129	270

The diminution in the weekly numbers was to a considerable extent affected by the successive reductions in the price of milk, the price per pint falling at 7th February from 6d. to 5½d., at 28th February to 5d., at 3rd April to 4½d., and to 4d. during May.

In September last only 11 cases remained on the register, all of whom were in receipt of free supplies.

Cost to Corporation.—Under the scheme of distribution adopted by the Corporation an allowance of 1d. per pint was made for each shilling of income per adult male under 15s. per week (after deducting rent). Thus at a time when the price of milk was 6d. per pint, milk was granted at 5d. in respect of a wage of 14s.; at 4d. on a wage of 13s.; at 3d. on a wage of 12s.; at 2d. on a wage of 11s.; and at 1d. on a wage of 10s.; while free supplies were granted in each case where the nett wage was less than 10s. per adult per week. The basis of this nett wage is explained later.

The maximum demand occurred during the week ending 31st January last, and the following summary indicates the distribution of the allowances granted per day during that week:—

Amount of Allowance.	No. of Pints.	Percentages.	
1d.	144½	10	48
2d.	164½	12	
3d.	152½	11	
4d.	212	15	
5d.	...	...	
6d. (free)	732	52	
	1,405½	100	

This represented a cost to the Corporation for the day of £25 14s. 3d., while the total charge in respect of the period from January till the close of the financial year (31st May), was £4,465 18s. 10d., one-half of which amount is recoverable under the Government Grant.

* * * * * * * * * * * *

Bases of Allowances in Necessitous Cases.—The nett wage of 15s. per week already referred to was arrived at on the basis of the cost per unit of staff in the hospitals, which for food, fire, and light was known to be 10s. 6d. per week, to which was added 4s. 6d. for clothing and boots. After deducting rent from the total earnings of a family, the remainder was divided among the family calculated as "adult males."

* * * * * * * * * * * *

Illustration of the reasons for refusal in the past is available—*e.g.*, during the fortnight ended 24th April last, of 123 cases where the application was declined, 51 were already in receipt of Poor Law relief, 28 were soldiers' families falling to be dealt with by the Pensions Committee; and of 44 others, the income in the majority of cases exceeded 15s. per adult male.

COUNTRY HOMES.

Mount Vernon Country Home.—This is situated in North Mount Vernon district, about seven miles from the centre of the City, and has considerable ground surrounding it, including a large vegetable garden. The house is in an open situation, and well adapted for the purpose of a country home. Its inception was due to a committee of ladies carrying on voluntary work for child welfare in Govan and Townhead wards, and the intention was to send children, through a Child Welfare Centre, if they were found to be suffering from disability which would benefit by residence in the country.

There is accommodation for 25 children from 2-5 years of age in two dormitories, a large day and play-room, and an isolation room.

The Home came under the direct administration of the Corporation in January, 1920.

Scotstoun Country Home.—This home is situated about five miles to the west of the City. It is a large self-contained dwelling-house on elevated ground between Dumbarton Road and Anniesland Road, and has ample ground for recreation. It is well built and openly placed, and of two storeys, facing south and west in its main aspects. Added accommodation is provided in two army huts running out to the east of the building, each of which is used as a dormitory for 15 children. The total accommodation here for children from 2-5 years of age is 30.

Mount Blow House.—This house is situated on high-lying ground on Dalmuir Estate, immediately to the west of Dalmuir, and about 8 miles from the centre of the City. When the lease of the former occupant expired the Child Welfare Committee recommended that it should be devoted to the purpose of a country home, and at present the City Engineer is making certain structural alterations, while additional beds will be provided in pavilions to be erected to the west and south of the house.

The first admission to Mount Vernon Home was in March, 1919, while that to Scotstoun was in April, 1920. During 1920 there were 39 admissions to Mount Vernon (including 3 readmissions) and 82 to Scotstoun, all of them being children between 1 and 5 years of age. The large number of admissions to Scotstoun is explained by refilling after evacuation of the house towards the end of the year, owing to the occurrence of infectious disease.

The following statement gives the condition of the children on admission during the year:—

	Mount Vernon.	Scotstoun.	Total.
Rickets, ...	27	56	83
General malnutrition, ...	4	14	18
Bronchitis, ...	4	4	8
Paresis, ...	1	...	1
Debility after acute illnesses, ...	1	4	5
Anæmia, ...	...	1	1
Nervousness, ...	1	...	1
Talipes and debility, ...	...	1	1
Cataract, ...	1	...	1
Healthy, but mother about to be confined,	...	2	2
	39	82	121

The average duration of residence depends upon the rapidity of improvement, which may be longer in winter, as less outdoor treatment can then be obtained. During 1920 the average residence of those dismissed was 5 months at Mount Vernon and 12 weeks at Scotstoun, while the maximum and minimum residence at the former was 16 months and 1 month respectively, and at Scotstoun 9 months and 1 month.

The numbers of dismissals during the year were 32 from Mount Vernon and 63 from Scotstoun, and the condition on dismissal is summarised in the following statement: —

	Mount Vernon.	Scotstoun.	Total.
Much improved, ...	22	36	58
Not improved, ...	1	1	2
Parents leaving city, ...	3	7	10
Transferred suffering from infectious disease,	2	5	7
Sent home because of skin disease, ...	2	...	2
Taken home by parents (fretting, &c)., ...	2	13	15
Died (broncho-pneumonia), ...	...	1	1
	32	63	95

NOTIFICATION OF BIRTHS.

The number of notifications of births received during 1920 is shown in Appendix Table XV., compared with the corresponding figures for the two preceding years. It should be remembered that, as notifications include still births, they are always in excess of the number of births registered. Omissions to notify births in terms of the Act average around 2½ per cent., but most of these are subsequently intimated when attention has been directed to the matter.

Nature of Attendance at Births. — The proportion of births medically attended, which underwent considerable diminution during the war years, having fallen from 48·6 per cent. in 1914 to 37·5 per cent. in 1919, made some recovery during 1920, when the percentage so attended was 39·2. This leaves a balance of 60·8 per cent. of births not medically attended, which is equivalent to 3 in every 5 births.

Still Births.—The percentage of still births in Glasgow has always averaged 4, and during 1920 it was 3·8. The lowest percentage recorded since records have been kept is 3·6 during the war years 1916-1917. It has been noted, however, that the number of still births occurring fluctuates considerably even from month to month.

The percentage attended medically or in institutions is 5·2 for 1920, compared with 2·9 non-medically attended, but if those medically attended in institutions are excluded the former rate is reduced from 5·2 to 3·8. This larger percentage among medical cases is no doubt due to the fact that some condition has been recognised which made it advisable to call in a doctor in certain cases where a midwife was in the first instance employed.

The bacteriological examination of a proportion of children still born was continued during the year, but no new light has been thrown on the causes of pre-natal death.

INFANT VISITATION.

Under the scheme of infant visitation every birth is visited if the notification does not state that a medical practitioner has been in attendance, and the following table shows the record of those visited, together with certain information obtained:—

	1918	1919	1920
Enquiry cards returned, ...	16,650	19,044	23,861
Full information obtained, ...	15.656	17.632	22,216
Doctor found in attendance, ...	240	163	177
Duplicates, ...	10	1	—
Wrong addresses.	2	5	1
Others, ...	742	1.243	1,467
Of those for whom full information was obtained—			
Legitimate, ...	13,995	15,976	20,190
Illegitimate, ...	1,661	1,656	1,713
Born at full term, ...	14,962	16,778	20,823
Premature births, ...	694	854	1,080
Condition of Infant at Birth—			
Well nourished, ...	13,100	14,864	18,768
Fairly nourished, ...	1,377	1,433	1,518
Badly nourished, ...	553	629	801
Still-born, ...	626	706	816
Nature of Feeding at First Visit—			
Breast, ...	13,413	15,140	18,549
Artificial, ...	863	927	1,214
Breast and Artificial, ...	285	338	614
Still born, ...	626	706	816
Dead at First Visit, ...	448	509	877
Adopted, ...	21	12	33

In addition to home visitation, the nurses attend the Infant or Child Welfare Consultations in their own districts. They thus have an opportunity of reporting to the doctor any illness or condition requiring medical treatment, and of following up the case afterwards to see that the treatment recommended is carried out.

The following series of summaries indicates the number of first and revisits overtaken, together with records of results:—

FIRST VISITS.

	1918	1919	1920
Infants visited under one year of age, ...	14,332	15,572	20,469
Infants visited over one year of age, ...	6	1	2
	14,338	15,573	20,471
Removed and new address not traced, ...	202	183	374
Not found at address given, ...	2	3	—
Out at time of visit, ...	—	—	—
In hospital or nursery, ...	13	15	55
Dead, ...	506	533	768
Nurse still attending, ...	—	—	—
Refused admittance, ...	12	—	46
Doctor in attendance, ...	276	181	177
Information refused, ...	—	—	54
No information, ...	6	—	—
Unable to gain admission, ...	—	—	—
Still-born, ...	643	730	869
Visits unnecessary, ...	419	651	684
Visits resented, ...	—	57	—
Adopted, ...	41	56	48
Foreigners, ...	—	—	—
Nursed out, ...	—	11	12
	16,458	17.993	23,558

REVISITS.

	1918	1919	1920
Infants visited under one year of age, ...	2,864	3,271	3,523
Infants visited over one year of age, ...	420	935	1,065
	3,284	4,206	4,588
Removed and new address not traced, ...	597	608	775
Not found at address given, ...	—	—	—
Out at time of visit, ...	65	105	123
In hospital or nursery, ...	16	31	33
Dead, ...	559	672	671
Adopted, ...	15	29	17
Nurse still attending, ...	—	—	—
Refused admittance, ...	2	—	4
Doctor in attendance, ...	—	—	3
Visits to mothers, ...	2	5	4
Unable to gain admission, ...	—	—	—
Visits unnecessary, ...	—	—	—
Visits resented, ...	1	3	6
Nursed out, ...	—	2	2
	4,541	5,661	6,226

The children found alive on the occasion of the first visit by the Health Visitor are classified in the following table under three groups:—

	Well.	Fair.	Bad.	Total.
1918, ...	12,727	1,499	112	14,338
1919, ...	13,919	1,548	106	15,573
1920, ...	18,771	1,548	157.	20,476

Generally speaking, those classified as "well" on the occasion of the first visit were not revisited, but those tabulated as "fair" and "bad" were kept under observation by the nurses, and the following table is a summary of results:—

REVISITS.

	Still Good.	Much Improved.	Slightly Improved.	No Improvement.	Worse.	Total.
1918, ...	1,487	1,771	22	4	—	3,284
1919, ...	2,893	1,257	56	—	—	4,206
1920, ...	3,459	1,098	23	3	—	4,583

GLASGOW INFANT HEALTH VISITORS' ASSOCIATION.

Working in association with the Public Health Department is the Glasgow Infant Health Visitors' Association, to whom are reported children whom it is desirable to keep under observation during a longer period than is possible by the official visitors. The number of visitors fluctuates between 300 and 400, and, although a number of them took up other work of national importance during the war, the visitation has been carried on satisfactorily during the period under review.

As this period generally extends to the first twelve months of life, a complete year must elapse before the results of the visitation can be summarised.

The following is a summary of the results for the years 1916-1918:—

Year.	Year old.	Removed.	Dead.	Ceased to be Visited.	Visits Unnecessary.	No Information.	Visits Resented.	No Visitor.	Total.
1916	1,757	438	283	125	31	12	6	18	2,670
1917	1,661	291	207	82	40	7	7	19	2,314
1918	1,439	169	237	124	32	16	14	21	2,052

The feeding of the infants is indicated in the following table:—

	1916	1917	1918
Year old—			
Breast only, ...	377	404	354
Breast and Artificial Food, ...	663	677	487
Artificial Food only, ...	717	580	598
Removed—			
Breast only, ...	202	132	80
Breast and Artificial Food, ...	53	41	19
Artificial Food only, ...	62	31	21
No Information, ...	121	87	49
Dead—			
Breast only, ...	111	69	98
Breast and Artificial Food, ...	45	36	25
Artificial Food only, ...	82	44	49
No Information, ...	45	58	65
Ceased to be visited—			
Breast only, ...	59	52	65
Breast and Artificial Food, ...	45	12	29
Artificial Food only, ...	21	18	30
Visits unnecessary—			
Breast only, ...	20	16	24
Breast and Artificial Food, ...	6	8	7
Artificial Food only, ...	5	8	1
No Information, ...	—	8	—
No Information, ...	12	7	16
Visits resented—			
Breast only, ...	4	5	10
Breast and Artificial Food, ...	1	—	1
Artificial Food only, ...	1	2	—
No Information, ...	—	—	3
No Visitors, ...	18	19	21
	2,670	2,314	2,052

INFANT MORTALITY IN RELATION TO THE INDUSTRIAL OCCUPATION OF WOMEN.

The practice, which has been in operation since the adoption of the Notification Act, of reporting to H.M. Inspector of Factories and Workshops all births notified in which information is obtained that the mother was employed, was continued, and during the year 1,697 were intimated.

OPHTHALMIA NEONATORUM.

During the year 1920, 787 cases of ophthalmia neonatorum were notified, as compared with 731 cases during the previous year, and 570 in 1918. The increased number of cases is partly explained by the larger number of births occurring during the year, but the rate for the year is only 24·1, compared with 28·1 and 28·2 respectively for the two preceding years.

OPHTHALMIA NEONATORUM CASES AND CASE-RATES PER 1,000 BIRTHS, ACCORDING TO NATURE OF ATTENDANCE AT BIRTH.

NATURE OF ATTENDANCE AT BIRTH.	CASES.			RATES.*		
Year	1918	1919	1920	1918	1919	1920
Doctors,	50	87	93	6·5	10·7	9·3
Institutions,	37	35	37	28·0	21·1	14·3
Inst. Nurses,	69	83	84	31·9	31·3	23·6
Midwives, &c.,	406	523	566	33·2	27·9	34·3
Regd. by P.H.D. Staff,	562	728	780	—	—	—
Doctor in Attendance,	—	—	2	—	—	—
Treated in other than Local Authority Hospital,	8	2	3	—	—	—
Treatment refused,	—	1	—	—	—	—
Removed,	—	—	—	—	—	—
Dead,	—	—	2	—	—	—
Total cases of Ophthalmia Neonatorum,	570	731	787	24.3	27·9	24·1
Not Ophth. Neon., but notified as such,	91	7	—	—	—	—
Notifications received,	661	738	787	28·2	28·1	24·1

* Calculated on Live Births notified, less duplicates.

N.B.—"Doctors found in attendance" are included in "Doctor in attendance," and deducted from "Midwives," &c.

Period at which symptoms appear:—

Cases occurring at Age—	1918	1919	1920
– 12 hours,	32	53	53
– 4 days,	293	351	361
– 8 ,,	171	215	229
+ 8 ,,	66	109	137
	562	728	780

Association with Syphilis.—Swabs of the discharge from eyes are being taken in most cases, and the association of the disease with syphilis observed, as shown in the following tables:—

	GONOCOCCAL.			NON-GONOCOCCAL.			UNCLASSIFIED.			TOTAL.		
	Total Cases.	Syphilis present.	Per Cent. with Syphilis.	Total Cases.	Syphilis present.	Per Cent. with Syphilis.	Total Cases.	Syphilis present.	Per Cent. with Syphilis.	Total Cases.	Syphilis present.	Per Cent. with Syphilis.
1918,	138	14	10·1	269	4	1·5	155	—	—	562	18	3·2
1919,	182	6	3·3	314	2	·6	232	—	—	728	8	1·1
1920,	151	9	6·0	385	—	—	244	2	·8	780	11	1·4

Of the 780 cases, 536 (most of which were not medically attended) were examined for the presence of gonococcus, and of these 151 were reported positive, which is equal to 28 per cent. as compared with almost 37 per cent. during 1919. Of the gonococcal cases only 9 were associated with syphilis, equivalent to 6 per cent., but no syphilis was found among the non-gonococcal cases.

Results of Treatment.—These are given in the following table. Among the gonococcal cases 107 were cured without any defect out of a total of 130 cases treated to a termination, which is equal to 82 per cent., as compared with 99 per cent. where gonococcus was not found in a total of 366 cases similarly treated.

In 6 cases where syphilis was stated to be present in association with the gonococcal organism, only 1 was cured without defect, which is equivalent to only 17 per cent.

It is very satisfactory to record, however, that no case of total blindness occurred among the cases of ophthalmia neonatorum dealt with during the year.

Result.	No Syphilis.			Syphilis Present.		
	1918	1919	1920	1918	1919	1920
Gonococcal.						
Cured (no defect),	104	134	107	4	3	1
Corneal Defects—						
One eye good,	6	14	7	3	—	1
,, ,, fair,	3	3	2	2	—	2
,, ,, blind,	1	2	8	1	—	2
Both eyes good,	2	1	4	2	1	—
,, ,, fair,	—	4	2	1	—	—
,, ,, blind,	2	1	—	—	—	—
Removed	—	—	3	—	—	—
Dead,	6	17	9	1	2	3
	124	176	142	14	6	9
Non-Gonococcal.						
Cured (no defect),	256	304	364	2	1	—
Corneal Defects—						
One eye good,	—	—	2	1	—	—
,, ,, fair,	—	—	—	—	—	—
,, ,, blind,	1	1	—	—	—	—
Both eyes good,	—	—	—	—	—	—
,, ,, fair,	1	—	—	—	—	—
,, ,, blind,	—	—	—	—	—	—
Removed,	2	2	2	—	—	—
Dead,	5	5	17	1	1	—
	265	312	385	4	2	—
Unclassified.						
Cured,	155	232	242	—	—	1
Removed,	—	—	—	—	—	—
Dead,	—	—	—	—	—	1
	155	232	242	—	—	2
Total,	544	720	769	18	8	11

Treatment of Mothers.—The former practice of offering treatment to mothers has been continued, but few continue treatment until cured. Those who desire to return home because of household duties are urged to attend for treatment at such convenient times as may be arranged.

MIDWIVES (SCOTLAND) ACT, 1915.

The present is the fourth year of the operation of this Act, and the summaries which follow indicate the work done in its administration during these years. The number of handywomen who still carry on the practice of midwifery, although not registered, is 15, but these must cease five years after the passing of the Act—that is, in 1922.

During 1920, 370 midwives intimated their intention to practice in Glasgow; 37 of these notified for the first time, 36 of whom were entitled to registration by examination, and 1 by having been in practice in 1914. All practising midwives are seen every three months, in their homes, whenever possible. In addition, each midwife is seen when there is any unusual occurrence in her practice—*e.g.*, puerperal fever—or when she has been in contact with other infectious disease, or fails to send prompt intimation of inflammation of the eyes, or when a complaint against her has been received.

During the year the names of 5 midwives were removed from the Roll. Two had been convicted in a criminal court (one of them for procuring abortion), while three were reported by the Local Authority for disobeying the rules issued under the Midwives (Scotland) Act.

There are still several illiterate and untrained midwives in practice, and although attempts are constantly made to instruct them little can be accomplished. The midwives beginning practice have, as a rule, been trained recently, and have passed the examination of the Central Midwives Board. In this way the general standard is being raised.

	1917	1918	1919	1920
Midwives in Practice during year, ...	312	310	365	370
THE QUALIFICATIONS FOR CERTIFICATION UNDER ACT, HELD BY THE FOREGOING WERE—				
In Practice, December, 1914, ...	200	209	210	210
C.M.B. (Scotland) Examination, ...	52	65	95	108
Other recognised qualifications, ...	60	36	60	52

In the following table some indication is afforded of the number of births attended during the year by individual midwives. It would seem that of the 17,500 births attended by midwives 14,000 occurred in the practice of midwives with 50 confinements or more in the year:—

BIRTHS NOTIFIED BY MIDWIVES.

	Births Notified.				
	1917	1918	1919	1920	Midwives
Under 50 Notifications, ...	2,995	3,021	3,201	3,249	223
50-100 „ ...	3,286	3,649	2,860	4,171	56
100-200 „ ...	3,800	4,360	4,308	5,300	36
200-300 „ ...	1,144	1,323	1,512	2,283	9
300-400 „ ...	309	—	947	1,753	5
400-500 „ ...	481	435	495	—	—
Over 500 „ ...	—	—	—	537	1

STILL-BIRTHS NOTIFIED BY MIDWIVES.

	Midwives.				Still-Births notified.			
Notification	1917	1918	1919	1920	1917	1918	1919	1920
1-5, -	125	109	118	272	244	215	258	133
6 10, -	9	13	9	117	62	96	71	17
11-15, -	2	2	1	12	22	25	15	1
Over 15, -	1	1	1	22	16	17	19	1
	312	310	365	423	344	353	373	152
°/o of Births attended,	-	-	-		2·8	2·7	2·8	2·4

Although there is an increase in the number of still births and cases of ophthalmia neonatorum notified by midwives during 1920, the percentage of both is the lowest in period 1917-20.

The figures in the two following summaries contain records of the intimations only, so that the numbers are not the same as the actual cases referred to in other sections of this Report:—

Cases of Ophthalmia Neonatorum notified by Midwives.

	Midwives.				Cases notified.			
Notifications	1917	1918	1919	1920	1917	1918	1919	1920
1-5, - -	96	100	95	128	204	199	198	255
6-10, - -	20	13	19	14	148	97	143	103
11-15. - -	5	2	4	7	57	25	53	86
16-20, - -	3	1	4	—	56	18	67	—
21-25, - -	1	—	1	—	23	—	25	—
Over 25, -	1	2	—	2	26	58	—	69
	312	310	123	151	514	397	486	513
°/o of Births attended, - - -					4·2	3·1	3·6	2·9

Cases of Puerperal Fever occurring in Practice of Midwives.

	Midwives.				Cases.			
	1917	1918	1919	1920	1917	1918	1919	1920
1 Case, -	39	38	51	44	39	38	51	44
2 Cases, -	8	8	9	18	16	16	18	36
3 ,, -	3	3	5	6	9	9	15	18
4 ,, -	—	—	2	4	—	—	8	16
5 ,, -	—	—	—	1	—	—	—	5
6 ,, -	—	—	—	1	—	—	—	6
	50	49	67	74	64	63	92	125

Number of Requests for Assistance to Medical Practitioners in Cases of Emergency under Rule.

	Midwives.				Requests made.			
Notifications	1917	1918	1919	1920	1917	1918	1919	1920
Under 10, -	138	119	322	163	479	424	489	562
11-20, - -	20	31	24	37	296	463	345	546
21-30, - -	6	6	13	5	144	147	325	121
31-40, - -	3	1	3	12	100	31	104	419
41-50, - -	—	—	2	4	—	—	98	173
Over 50. -	1	3	1	3	54	178	84	211
	312	310	365	224	1,073	1,243	1,445	2,032

There has been a large increase both in number and percentage of requests for medical assistance in succeeding years, viz.:—1917, 8·9; 1918, 9·7; 1919, 10·9; 1920, 11·7. The increase is due to the fact that midwives are becoming more familiar with the rules of the Midwives Act, and so send the duplicate notices required.

The *Nature of Emergencies* is given in the following statement:—

Nature of Emergency.	1917	1918	1919	1920
(1) In all cases in which a woman during pregnancy, labour, or lying in appears to be dying or is dead,	—	—	—	1
Pregnancy—				
(2) In cases of a pregnant woman, where there is any abnormality or complication, such as—				
(*a*) Deformity or stunted growth, ...	13	28	22	24
(*b*) Loss of blood, ...	6	9	14	26
(*c*) Abortion or threatened abortion, ...	12	13	21	29
(*d*) Excessive sickness, ...	—	1	—	—
(*e*) Puffiness of hands or face, ...	1	2	5	9
(*f*) Fits or convulsions, ...	—	1	1	1
(*g*) Dangerous varicose veins, ...	3	2	1	—
(*h*) Purulent discharge, ...	—	—	1	4
(*i*) Sores of the genitals, ...	2	—	—	—

Nature of Emergency.	1917	1918	1919	1920
LABOUR—				
(3) In the case of a woman in labour at or near term, when there is any abnormality or complication, such as—				
(*a*) Fits or convulsions, ...	4	15	9	12
(*b*) A purulent discharge, ...	—	3	1	1
(*c*) Sores of the genitals, ...	5	3	9	22
(*d*) A malpresentation, ...	34	43	67	59
(*e*) Presentation other than the uncomplicated head or breech, ...	114	111	109	160
(*f*) Where no presentation can be made out, ...	3	5	7	5
(*g*) Where there is excessive bleeding, ...	46	41	46	45
(*h*) Where two hours after the birth of the child the placenta and membranes have not been completely expelled, ...	65	54	64	75
(*i*) In cases of serious rupture of the perinæum, or of other injuries of the soft parts, ...	222	229	237	348
(*j*) Prolonged labour, ...	280	321	468	621
LYING-IN—				
(4) In the case of a lying-in woman, when there is any abnormality or complication, such as—				
(*a*) Fits or convulsions, ...	5	2	4	4
(*b*) Abdominal swelling and tenderness, ...	10	14	15	10
(*c*) Offensive lochia, if persistent, ...	10	3	12	4
(*d*) Rigor, with raised temperature, ...	6	11	13	9
(*e*) Rise of temperature above 100° F., with quickening of the pulse for more than twenty-four hours, ...	41	52	68	126
(*f*) Unusual swelling of the breasts with local tenderness or pain, ...	9	11	14	8
(*g*) Secondary post-partum hæmorrhage, ...	7	7	1	1
(*h*) White leg, ...	4	6	4	6
THE CHILD—				
(5) In the Child, when there is any abnormality or complication, such as—				
(*a*) Injuries received during birth, ...	3	4	—	2
(*b*) Any malformation or deformity endangering the child's life, ...	11	22	15	28
(*c*) Dangerous feebleness, ...	76	128	124	195
(*d*) Inflamation of, or discharge from, the eyes, however slight, ...	6	2	6	7
(*e*) Serious skin eruptions, especially those marked by the formation of watery blisters, ...	4	25	4	3
(*f*) Inflammation about, or hæmorrhage from, the navel, ...	3	3	5	5
Unclassified, ...	68	72	77	182
	1,073	1,243	1,444	2,032

DEATHS (NOTIFIED BY MIDWIVES) BEFORE A DOCTOR WAS IN ATTENDANCE.

1917, ...	4 mothers	10 infants.
1918, ...	8 ,,	37 ,,
1919, ...	7 ,,	35 ,,
1920, ...	4 ,,	56 ,,

Of the four mothers who died before a Doctor was in attendance, two died of Heart Failure, one of Pneumonia, and one of Hæmorrhage, due to Placenta Prævia. In the last case, negligence was proved against the midwife, and her name was removed from the Midwives' Roll.

Of the 56 infants who died before a Doctor was in attendance, the causes of death were as follows:—Premature Birth, 39; Atalectasis, 1; Congenital Debility, 2; Congenital Malformation, 8; Accident of Birth, 3; Gastro-enteritis, 1; Overfeeding (Syncope), 1; Natural Causes, 1—Total, 56.

LAYING OUT THE DEAD.

1917, ...	2 mothers	6 infants.
1918, ...	2 ,,	6 ,,
1919, ...	5 ,,	6 ,,
1920, ...	3 ,,	9 ,,

ARTIFICIAL FEEDING.

1917, ...	Not notified.
1918, ...	21 Notifications.
1919, ...	60 ,,
1920, ...	53 ,,

INTIMATION OF EXPOSURE TO INFECTION.

Diseases.	1917	1918	1919	1920
Puerperal Fever, ...	21	13	42	83
Measles, ...	12	7	8	17
Whooping-Cough, ...	3	1	—	3
Scarlet Fever, ...	1	—	3	4
Diphtheria, ...	—	—	3	4
Pemphigus, ...	—	—	2	4
Influenza, ...	—	—	1	1
Meningitis, ...	2	—	—	—
Pneumonia, ...	-	1	—	—
Erysipelas, ...	—	1	—	2
Enteric, ...	—	—	1	—
Itch, ...	—	—	1	—
Others, ...	—	—	5	2
Smallpox, ...	—	—	—	4
	39	23	66	126

PUERPERAL FEVER.

Appendix Table XVII. shows the number of cases occurring in each of the years 1918-20, and the number removed to hospital.

The proportion per 1,000 births during the year, compared with 1918 and 1919, was as follows:—

1918, ...	7·1 per 1,000 births.
1919, ...	7·0 ,,
1920, ...	9·0 ,,

During the six years from 1915 to 1920 special records of cases were kept, from which the following percentages of attendances at births have been calculated:—

PERCENTAGE OF CASES ATTENDED BY DOCTORS, MIDWIVES, &c., DURING THE YEARS 1915-1920.

ATTENDANCE AT BIRTH.

Year.	Doctor.	Midwife.	Nurse and Doctor.	Institutional Nurse.	Institution.	Others.
1915,	27	36	17	11	9	...
1916,	16	41	22	8	9	4
1917,	33	36	18	5	5	3
1918,	20	34	13	15	8	10
1919,	24	42	19	4	7	4
1920,	30	34	16	9	9	1

"Others" includes cases outwith the city.

SECTION IV.

INFECTIOUS DISEASES.

Appendix Tables XVII and XVIII shew the number of cases of the various diseases registered during the year and the rate per million of the population, with a comparison for the two preceding years.

The abstract which follows summarises the rates, since 1910, of certain of the zymotic diseases dealt with under the Infectious Disease (Notification) Act of 1889. The case rates given in the last column cannot be compared without adjustment with previous years. They include measles, whooping-cough, and chickenpox, as formerly, but now also include ophthalmia neonatorum, trachoma, and poliomyelitis, malaria, dysentery, and various forms of pneumonia which were made notifiable under Regulations issued by the Board of Health. The rates in most cases for the major diseases show increases from the low levels reached during the war, but these will be referred to under the various diseases dealt with in this section. The outstanding feature of the table is the increase in smallpox, owing to the outbreak of that disease during the year 1920, with a rate of 477 per million. During its prevalence chickenpox was made notifiable by the Corporation for a period of three months to the end of July, and was continued. Regulations issued by the Board of Health made the disease notifiable throughout the country for six months from 1st October, 1920.

GLASGOW.—CASE-RATE PER MILLION OF THE POPULATION FOR CERTAIN ZYMOTICS AND FOR ALL CASES OF INFECTIOUS DISEASES REGISTERED, SINCE 1910.

YEAR	Typhus Fever.	Enteric Fever.	Continued and Undefined.	Puerperal.	Smallpox.	Scarlet Fever.	Diphtheria and Membranous Croup	Cerebro-Spinal Fever.	Phthisis.	Non-Pulmonary Tuberculosis.	All Others.	TOTAL.
1910,	19	427	29	142	1	5,277	2,435	58	[1]4,508	...	25,586	38,482
1911,	9	489	14	170	3	4,020	2,418	64	2,973	...	25,732	35,892
1912,	43	311	14	181	...	3,687	2,211	24	2,983	...	29,307	38,761
1913,	39	232	7	144	...	4,005	1,934	35	2,552	...	26,247	35,195
1914,	18	340	7	206	...	5,337	1,440	45	2,284	[2]1,088	21,675	32,440
1915,	9	248	5	175	...	5,973	1,257	167	2,169	1,375	25,389	36,667
1916,	17	158	8	178	...	3,719	1,220	131	2,285	1,270	17,001	25,987
1917,	1	82	4	148	...	1,634	1,146	75	2,435	1,433	27,005	33,963
1918,	49	128	12	151	1	1,193	1,379	67	2,258	1,273	16,045	22,556
1919,	30	103	8	163	5	2,443	1,626	72	1,834	1,083	21,359	28,726
1920,	8	204	13	267	477	3,378	1,809	76	2,009	1,063	25,509	34,813

[1] Pulmonary tuberculosis made compulsorily notifiable, Jan., 1910.

[2] Non-pulmonary tuberculosis made compulsorily notifiable, July, 1914.

The number of cases of enteric fever increased considerably, the rate of 204 being almost double that of the preceding year. Typhus, on the other hand, was only recorded among 9 persons, compared with 33 in 1919 and 55 in 1918.

Scarlet fever continues to show a distinct upward tendency, the rate being fully 1,100 per million higher at 3,378 for 1920, while the diphtheria rate increased from 1,626 to 1,809.* The diseases which primarily affect the central nervous system show considerable variation, but the rates given in

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* See also Trans. Roy. Socy. of Medicine—Vol. XIV., p. 12, Session 1920-21, for comparison of the movement of Enteric Fever, Scarlet Fever, and Diphtheria during the last thirty years—being address as President of Epidem. Sec.

Appendix Table XVIII for the various forms of pneumonia cannot be taken as an accurate comparison between 1919 and 1920, as these diseases only became compulsorily notifiable in the latter part of 1919.

Among the non-notifiable diseases measles was more prevalent, but whooping-cough was less so. The number of cases of chickenpox registered was more than double that of the preceding year.

PRINCIPAL ZYMOTIC DISEASES.

The death-rates for several periods have been:—

1881-90,	3·600 per 1,000 living.	1914,	2 218 per 1,000 living.
1891-1900,	3·282 ,,	1915,	2 993 ,,
1901-1905,	2·660 ,,	1916,	1·733 ,,
1906-1910,	2·450 ,,	1917,	2·063 ,,
1911,	2·544 ,,	1918,	1·434 ,,
1912,	1·883 ,,	1919,	1·583 ,,
1913,	2·484 ,,	1920,	1·224 ,,

As far as possible the comparison in the above table has been preserved by including only infectious diseases that have been notifiable for most of the period given. The tendency is towards decrease.

SMALLPOX AND VACCINATION.

The outbreak of smallpox which began during the year is the first epidemic since that of the early years of the present century, and the records of the cases occurring were made the subject of special inquiry by Dr. MacGregor, Senior Assistant Medical Officer of the Department, and incorporated in a paper entitled "Some Features of the Smallpox Epidemic in Glasgow, 1920," which was read at a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine on 28th January, 1921.

As only 36 cases have occurred since the Report was made up, an addendum has been added to the Report, in order that information regarding the whole epidemic may be available.

SOME FEATURES OF THE SMALLPOX OUTBREAK IN GLASGOW, 1920.

By A. S. M. MacGregor, O.B.E., M.D., D.P.H.

The outbreak in Glasgow which began in the spring of 1920 is the first considerable invasion of this country by smallpox since the epidemic which prevailed between 1900 and 1905. Indeed, during the intervening years the whole country has been singularly free from smallpox, in spite of repeated introduction of actual cases at the various seaports. In Scotland between 1905 and 1919 there have been thirty-eight deaths in all, only one of which occurred in Glasgow. The behaviour of smallpox in Scotland and Glasgow during the nineties and subsequently is shown in the following table, which gives the smallpox cases and deaths from year to year since 1893.†

TABLE I.

	Scotland (including Glasgow)		Glasgow			Scotland (including Glasgew)		Glasgow	
Year	Cases	Deaths	Cases	Deaths	Year	Cases	Deaths	Cases	Deaths
1893	746	68	386	26	1906	23	1	3	—
1894	1,010	129	42	5	1907	8	1	1	—
1895	428	47	244	23	1908	82	6	2	—
1896	19	2	1	—	1909	6	—	—	—
1897	86	10	50	6	1910	11	—	1	—
1898	28	2	1	—	1911	29	5	2	—
1899	22	1	1	1	1912	57	17	—	—
1900	518	53	401	42	1913	1	—	—	—
1901	1,990	278	1,383	200	1914	6	1	—	—
1902	915	80	458	43	1915	14	2	—	—
1903	550	41	290	26	1916	2	1	—	—
1904	2,257	185	878	67	1917	—	—	—	—
1905	128	4	4	1	1918	11	—	2	—

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† Bruce Low. "Incidence of Smallpox throughout the World in Recent Years," 1918.

This table shows that Glasgow, in common with Scotland generally, has had little smallpox since the epidemic period of 1900-04.

In no previous period since 1871-74 has the continued absence of smallpox been so notable. Coincident with this diminished prevalence of the disease a considerable decline in the practice in infant vaccination has taken place, sufficiently pronounced to modify the character of the population exposed to risk. A further modification has been introduced by the presence in the population of the large group of revaccinated ex-service men. Some interest, therefore, attaches to a descriptive account of the first considerable reappearance of smallpox, especially in view of some recent speculations as to its future in this country. It is proposed to give a brief outline of the behaviour of this outbreak in Glasgow, to discuss points of similarity or otherwise between it and previous invasions, and to deal with some aspects of its administration.

In order to allow time for the preparation of the data cases occurring after the end of November are not included in the tables. Chart I shows the numbers sickening daily throughout the period from February onwards. The dates of sickening of the fatal cases are shown, and also the daily admissions to hospitals.

The outbreak was at its height during May, June, and July, and gradually tailed off during the later months of the year. Its course presented certain unusual features. It never reached epidemic proportions, nor did it show any consistent rise and fall. It progressed rather by a succession of waves with a quite definite suggestion of periodicity (as if always endeavouring to establish itself in epidemic proportions and never quite succeeding), the first two or three of much the same amplitude, and the later ones gradually decreasing in volume. This undulatory progress is well shown in the chart. A feature of the outbreak was the continued occurrence of ambulant "missed" infections, as described later, and it was no doubt the presence of these and others never discovered which kept the outbreak alive after it became definitely established during April and May.

A study of the charts of seasonal incidence of the previous outbreaks in Glasgow which have reached considerable dimensions shows that their maximum prevalence occurred during the winter months December, January, and February, with the summit in January, followed by a decreasing and sometimes irregular incidence during spring and summer, with perhaps, as in 1904, a secondary peak in June. It may also be observed that one year of high prevalence never stood alone, but was always followed by outbreaks in immediately succeeding years. The present outbreak is of a type somewhat similar to the flatter curves of incidence of the years 1893 (extending from October, 1892, to January, 1893) and 1895 (from January to July), but its nearest parallel as regards seasonal incidence was the invasion of 1900, when 397 cases sickened between April 21 and December 29, the maximum prevalence being reached in June and July. This was followed in 1901 by a severe outbreak with 1,389 cases, again succeeded by a recrudescence in 1901-02 with 469 cases.

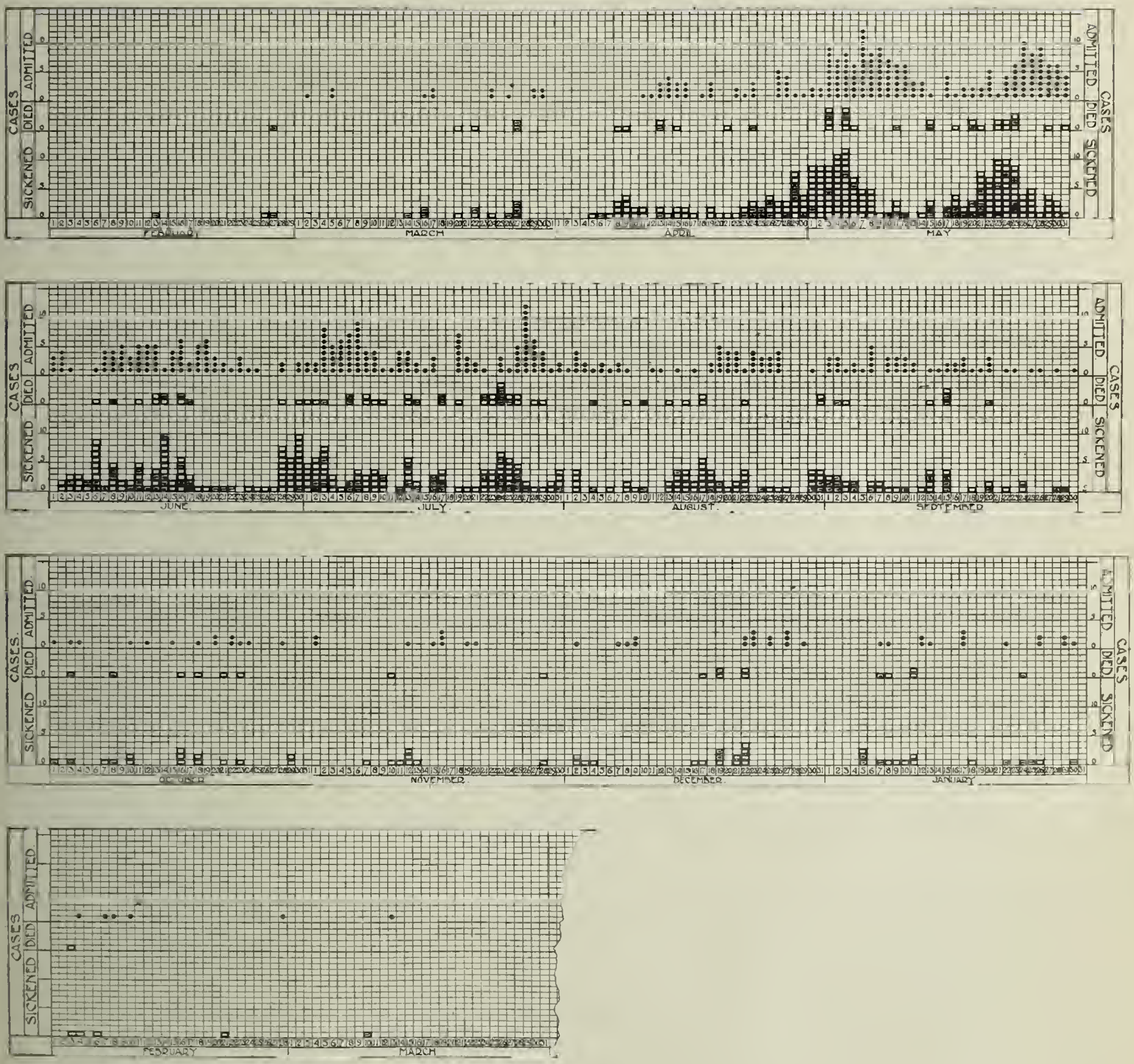
The course of smallpox in the City during the past fifty years may be briefly described. Since the large epidemic of 1871 came to an abrupt end in 1874 the death-rate remained very small (nine per million during 1874-79, nine per million during 1880-84, three per million during 1885-89). There were no deaths for five years between 1887 and 1892. From now on a certain degree of restlessness becomes apparent, and sharp outbreaks occurred in 1893 and 1895 (death-rates thirty-eight and thirty-three per million), which were not confined to Glasgow. In 1894, although only five deaths occurred in Glasgow, there were 129 in Scotland. In 1897 the rate was eight per million, and in 1900 it was fifty-six per million. There was thus a longer period of quiescence lasting about twenty years, followed by a shorter one of about ten years, during the nineties, when smallpox became more active, culminating in the outburst of 1901-02 and succeeding years. Between then and now there has been a period of roughly fifteen years, with an almost entire absence of smallpox, suggesting an analogy with the experience of the years following 1871-74, when its incidence was uniformly low.

It would, of course, be unwise to attempt to make any prediction, especially as regards smallpox, but this description of its behaviour during these fifty years gives point to the suggestion made by Dr. Chalmers that history is repeating itself, and smallpox renewing its activity as it appeared to do in the nineties, and that we are entering on a period of heightened infectivity to which the present outbreak may be the prelude.

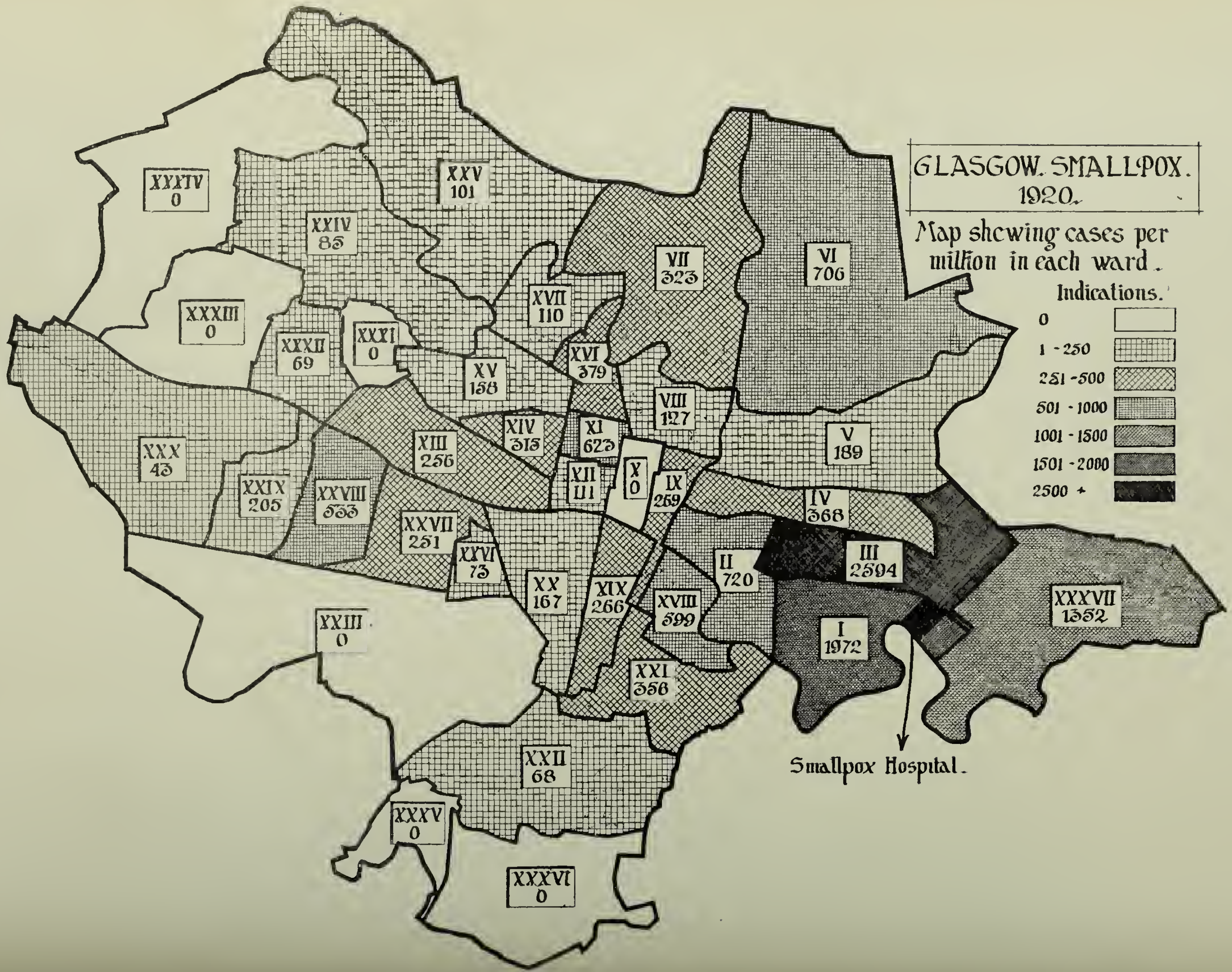
Among the first cases to occur were two adult patients, who were removed to hospital from the centre of the City on March 2 and 3 respectively. They were the parents of a stewardess, who had arrived home on January 25 from Bombay. The vessel had reached the Thames on January 24, and from it, shortly after its arrival, there had been taken to hospital two patients, whose illnesses were subsequently diagnosed to be smallpox. Although this girl did not herself develop smallpox, and showed no trace of having had even a mild attack, she apparently infected her parents, possibly through the medium of some soiled clothing, which, it was ascertained, had been brought from the ship. The mother of the girl contracted a mild attack—the rash appearing twenty-one days after her daughter's arrival home. The father sickened a fortnight later, and on the second day of his illness attended a race meeting in the east end of the City, just outside of the boundary.

CHART I.

Glasgow.—Smallpox, 1920-21.



CONTACT CASES INDICATED THUS— ▣



GLASGOW. SMALLPOX.
1920.

Map shewing cases per million in each ward.

ORIGIN OF THE OUTBREAK.

About the same time a second and apparently independent group of cases occurred in a family living in the eastern district of the City, about one mile from the smallpox hospital. The first patient, a pit engineman, who also carried on a side business as a fruit hawker, sickened on February 25. He was at work up till the actual day on which his rash appeared, and was so far recovered as to appear in public on the day he was diagnosed and removed to hospital. It will be observed that he was infected at a time when no patients had as yet been admitted to the smallpox hospital. Three members of his family subsequently sickened in the reception-house. All were mild infections.

The succession of cases in the City which followed these two groups chronologically, and which were largely confined to the east end, could not be directly attributed to either of these sources. The circumstances, however, surrounding the incidence of the two groups described were such as to afford ample opportunity for the spread of infection.

About this time also a third group, the infection of which, like the first, originated abroad, occurred in the S.W. district of the City. A ship's carpenter arrived home on March 13, *via* Hull, from a ship which had touched at various Mediterranean ports (including Alexandria). Smallpox was known to have occurred on this vessel, a case having been removed at Hull. The patient sickened on the day after arrival, and died the following day after an acute illness of twenty-four hours, in which no rash nor hæmorrhagic symptoms appeared. Four contacts subsequently developed smallpox, and no further cases were traced to this source.

In the meantime, in the Eastern district of the City, four sporadic cases, among whom no direct association with the preceding ones, or with a common source, could be traced, sickened between March 18 and 24. After a further interval of a fortnight the infection—still clinging mainly to the east end—definitely passed among the general population and began to give rise to a steady stream of cases. The general features of the rise and progress of subsequent infections are shown in the chart, and the map shows the final incidence which had been reached in the different districts of the City by the end of the year. The case-rate per million is shown against each ward of the City, and, for convenience, the map is hatched to indicate the broader distinctions of incidence. The three wards whose case-rates were over 1,000 per million lie in the eastern district of the City. In the centre of these wards is situated the smallpox hospital which was used for the treatment of the cases up to July 19. It will also be remembered that it was in this area that the outbreak really began. Up to the first week in May, the major incidence fell in the eastern area of the City; afterwards cases occurred sporadically in various districts, though still keeping mainly to the district in which the outbreak began, and from which it finally vanished by the end of September.

Before discussing the vaccination and mortality statistics a brief account may be given of such administrative and general features as may seem to be of interest.

ADMINISTRATIVE MEASURES.

(1) *Segregation of Contacts.*—As a general rule removal of the immediate contacts to one or other of the two reception-houses was rigidly enforced. This is a valuable procedure, as it enables thorough disinfection of the house and the personal clothing of contacts to be carried out, as well as affording the best opportunity for the discovery of modified eruptions. During the height of the outbreak the pressure on the reception-houses led to some relaxation of this practice. Selected families were allowed to remain at home throughout the quarantine period. In other cases detention for a restricted period was adopted, the criterion for discharge being satisfactory re-vaccination. In all, thirty-six contacts developed smallpox while under quarantine in the reception-houses.

(2) *Notification of Chickenpox.*—The addition of chickenpox to the list of notifiable diseases is an essential administrative measure during an outbreak of smallpox. Subsequent to the adoption of this measure in Glasgow on May 1, 1920, thirteen cases of smallpox were notified as chickenpox. Confusion between these diseases is a common cause of cases being missed, as the following examples show. A family of four were all found to be suffering from smallpox, the cause being an unvaccinated child, aged 2, who had sickened a fortnight previously, the case being twice diagnosed as chickenpox. Two members of a family were infected by one of the children, who had been treated for chickenpox, and who had in turn contracted smallpox from an adult member of the family; this case was also diagnosed as chickenpox. Both these missed cases had very sparse eruptions. Two unvaccinated children (aged 8 and 11), whose illnesses were regarded as chickenpox, infected other members of their respective families with smallpox before they were detected. Notification of chickenpox should, of course, be followed by verification of the diagnosis in certain cases. The practice adopted was to verify where the notified case was over 10 years of age, or if under 10 and unvaccinated. In this way the thirteen cases of smallpox above mentioned were detected. A difficulty arises where chickenpox is treated at home without medical aid, but notification of school absentees by the Education Authority greatly assists in reducing it.

(3) *Missed Infections.* — In endeavouring to trace the source of infection in individual cases of smallpox I have been much struck by the extent to which the continued prevalence of "missed" cases will defeat the best administrative efforts to control the spread of smallpox. Many are discovered in association with declared cases, but there is little doubt that many others elude the most exhaustive inquiry and search, and are never detected. "Missed" cases arise in various ways. The patient may succumb to a very severe infection before the signs are typical enough to suggest smallpox to the mind of the medical attendant. For instance, of the illnesses of patients of the present series who died at home, one was called uræmia; a second, malignant scarlet fever; a third, miliary tuberculosis. In the others the true diagnosis was suspected and confirmed just before or just after death. The really important "missed" case, however, from an epidemiological point of view, is that of the patient who has had a trifling illness, a sparse eruption, and is never laid up, or perhaps only remains indoors for a day or two with a "chill," and who is discovered only when contacts develop recognised smallpox. This type of case is common enough in most epidemics, but it has been so much in evidence during this outbreak that it is thought worth while to give some examples at the risk of repeating what must be familiar to those who have dealt with outbreaks of smallpox:—

(i) Fur-stitcher (aged 26), remains at work, and travels daily by car throughout whole period of illness, for over three weeks.

(ii) Housewife (aged 50), able to go about during most of illness for five weeks. Visited a coast resort while in crusting stage.

(iii) Two members of a family (aged 40 and 72) sicken in succession, the one a fortnight after the other. The one is never ill, and is able to go about freely for five weeks; the other, except for a short period, is able to go about for three weeks.

(iv) Housewife (aged 38), a month ill before detected, goes about freely shopping and to religious meetings.

(v) Woman (34), discovered in fifth week of illness. During illness went freely about public-houses, and was arrested by the police.

(vi) Male (aged 60), discovered with a fortnight-old rash during night raid on a model lodging-house. Had continued at work throughout and had visited a neighbouring town.

(vii) Woman (aged 40), diagnosed on sixteenth day of illness, after moving freely about locality.

(viii) Dressmaker (aged 43), carried on her work as dressmaker for three weeks after onset of rash.

(ix) Male (aged 40), continued at work throughout illness, detected over four weeks after onset.

(x) Girl (aged 25), was never ill, travelled to two towns near Glasgow, and later infected her parents.

The true nature of these cases was not suspected until the patients had given rise to other manifest infections among their immediate contacts, and but for this they might have passed undetected altogether. If any explanation of the continued progress of smallpox throughout the city were needed, it is to be found in the existence of cases like those quoted, which are often so mild in character, and whose discovery is so much a matter of accident, that it is difficult to avoid the conclusion that many others are entirely missed, and never come to the knowledge of the Health Department. Aside from this definitely unrecognised and ambulant type there are others whose illness is mistaken for some other affection, and who, while confined to the house for a period, may yet appear in public in an infectious condition. The principal disease with which smallpox is generally confounded is chickenpox, and the value of making the latter a notifiable disease has been amply demonstrated. Again, quite a few patients were recognised in medical men's consulting rooms, having been able to visit their doctor during the period of improvement in the symptoms which accompany the onset of the rash. The following table has been prepared to show the time elapsing between the date of onset and removal to hospital in respect of 518 cases admitted to hospital up to the middle of December.

TABLE II.

Number of days elapsing between onset and admission to hospital						Summarised in weeks	
Days	Cases	Days	Cases	Days	Cases	Week of Illness	Cases
1	12	9	2	22	2	First week, ...	489
2	66	10	1	24	2	Second week, ...	13
3	136	11	2	25	1	Third week, ...	6
4	126	14	1	26	1	Fourth week, ...	6
5	73	16	1	29	1	Fifth week, ...	2
6	49	17	1	32	1	Sixth week, ...	2
7	27	20	2	40	1		
8	7	21	2	41	1	Total, ...	518

Although the great majority of patients were thus promptly diagnosed and removed to hospital, there still remained a considerable number detected late in their illness, belonging to the category of "missed" cases described above. It will be noticed that the majority were admitted on the fourth or fifth day of the illness; a few as early as the second day; a considerable number at a time when the pustular stage would be well advanced. Those in whom the disease had been present for over a week before its nature was discovered reach the considerable proportion of 5·6 per cent. of the total cases. This feature of late diagnosis associated with "missed" cases is specially commented upon as characterising the outbreaks of the years 1892-95, when the proportion of patients who had sickened more than a week before diagnosis was over 8 per cent.*

(4) *Vaccination.*—When the outbreak threatened to become general the Corporation decided to meet the cost of providing facilities for the vaccination and revaccination of the whole population, and medical practitioners were invited to vaccinate all comers free of charge. The services of medical men were also enlisted in house-to-house vaccination in the affected areas, in which also a large number of medical students took part. Vaccination centres were opened in various districts of the City. The Education Authority agreed to co-operate, and their medical officers carried out systematic vaccination in the schools in the eastern districts—an important service, as many school children were thus vaccinated for the first time. The returns up to the end of the year (1920) showed that 225,000† persons had been vaccinated in one or other of these ways—not a large number when the size of the population, 1,115,000, is borne in mind. This number compares unfavourably with the total vaccinated during the epidemic of 1900-01, when 404,000 persons were vaccinated or revaccinated, out of a population of 675,887. Unlike the last epidemic, the present outbreak did not reach such serious dimensions as to break through the apathy of a large section of the population. It has been repeatedly shown that very many persons remain indifferent until danger actually threatens by the presence of the disease in their immediate neighbourhood or even in their own homes. As soon as the incidence began to diminish the number of vaccinations rapidly fell away, and the continued occurrence of sporadic cases produced little effect. A rough attempt has been made as follows to estimate the proportion of the population who may be regarded as protected by vaccination :—

(1) Known to have been recently vaccinated or revaccinated, ...	225,000
(2) Ex-Service men (estimated), ...	100,000
(3) Number of children in the population at 1920, born and vaccinated within ten years, ...	124,000
	449,000

It would appear that a considerable proportion of the 225,000 persons vaccinated as above represents simply arrears of vaccination of children exempted on account of the relaxation of the conscientious objection clause in the 1907 Act, or otherwise not vaccinated. A scrutiny of the returns from the medical practitioners indicates that about 75 per cent. of the persons vaccinated by them were children under the age of 15. Of these also a proportion were revaccinations. On the other hand, estimating from the Registrar-General's returns of births and deaths and of vaccinations, it has been calculated that the City population at the beginning of 1920 contained at least 127,000 unvaccinated children under 15, so that it may be said that the vaccinations carried out do not much more than cover the arrears which have accumulated during the past fifteen years. If we put the total number of children vaccinated and revaccinated at 150,000 there is left 75,000 adults over 15 who have been recently protected. To these may be added 100,000 ex-service men, and 124,000 children born and vaccinated within ten years and remaining alive in 1920. The sum of these three groups is 449,000, which is considerably less than one-half of the City population.

That this proportion of recently vaccinated persons is insufficient to protect the City against a possible further severe outbreak among the remainder or inadequately protected portion of the population is shown by reference to the facts of the last epidemic.‡ Its main bulk had exhausted itself by July, 1901, when 60 per cent. of the population were known to have been recently revaccinated. A sharp recrudescence of smallpox occurred in November of that year, and yielded 469 cases. This was again followed by a further outbreak in 1903-04, when 1,163 cases occurred.

Data bearing on the mortality, age distribution, and vaccination of the cases are given in the following paragraphs; the analysis embraces admissions to hospital from the beginning of the outbreak to the end of November, and includes a few patients sent in from areas just beyond the City boundary (about twenty in number).

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* Thomson and Marsh "Report on the Cases admitted to the City of Glasgow Smallpox Hospital, Belvidere, during the Epidemic Outbreak in the years 1892-95."

† Does not include persons vaccinated "privately," of whom no returns were made by medical practitioners.

‡ Smallpox Report, 1900-02.—Dr. A. K. Chalmers, Medical Officer of Health, Glasgow.

During December only sixteen cases were admitted, so that their omission from the tables will not seriously interfere with the accuracy of the statistical results, which may be regarded as reflecting the facts of the outbreak as a whole.

TABLE III. SMALLPOX, GLASGOW, 1920.

Age Group	Vaccinated	Died	Mortality per cent.	Unvaccinated	Died	Mortality per cent.	Vacc. Doubtful	Died	Mortality per cent.	Total Cases	Deaths	Mortality per cent.
0-1	—	—	—	15	11	73·3	—	—	—	15	11	73·3
1-5	1	—	—	32	11	34·3	—	—	—	33	11	33·3
5-10	8	—	—	40	10	25·0	—	—	—	48	10	20·8
10-15	20	—	—	21	5	23·8	1	—	—	42	5	11·9
15-20	61	2	3·3	4	2	50·0	3	1	33·3	68	5	5·9
20-25	42	5	11·9	4	2	50·0	1	—	—	47	7	14·9
25-35	70	4	5·7	3	1	32·3	2	—	—	75	5	6·6
35-45	85	18	21·2	1	—	—	2	1	50·0	88	19	21·7
45-55	75	23	36·6	1	1	100·0	5	3	60·0	81	27	33·3
55-65	27	5	18·5	2	2	100·0	2	1	50·0	31	8	25·8
65+	11	3	27·2	—	—	—	3	2	66·6	14	5	35·7
	400	60	15·0	123	45	36·5	19	8	42·1	542	113	20·8

MORTALITY AND AGE-INCIDENCE IN RELATION TO VACCINATION.

Summarising Table III (above) the fatality-rate among the vaccinated was 15 per cent., among the unvaccinated 36·5 per cent., and among the group classed as "vaccination doubtful" 42·1 per cent. It has been customary, for the sake of accuracy, to put on one side and class as "doubtful" those patients who cannot show unequivocal evidence of previous vaccination in the shape of a scar or scars, however minute, and who are yet said to have been vaccinated. In the present series nineteen persons are classified as doubtful, of whom 8, or 42·1 per cent., died, which gives the doubtfully vaccinated a higher case-mortality than the unvaccinated. It will be observed, however, that the great majority of those who died were aged over 45, when they would have completely passed beyond the transient protection afforded by an operation so insufficient as to leave no trace. Reference to the table shows that, age for age, the mortality among this group was less than it was among the unvaccinated. Some had no doubt been vaccinated in infancy, and others had probably never been vaccinated. They could not as a group be justly included among either the vaccinated or unvaccinated, and for the sake of strict veracity are best kept separated from either of these groups. In any case, their number is too small to sway the figures by any considerable fraction one way or another.

It will also be observed that no vaccinated patient under 15 years of age died, and that there were only two deaths among the sixty-one patients between 15 and 20 years of age; over 35 years of age the fatality among the vaccinated class rose appreciably. On the other hand the unvaccinated suffered severely at all ages, especially children in their first year of life, of whom 73·3 per cent. died. The mortality-rate among unvaccinated children under 15 years was 34 per cent.

The table also shows that in the unvaccinated class a much higher proportion were children than was the case among the vaccinated. The following comparison with the experience during 1900-01 indicates that this was an even more decided feature of the 1920 outbreak.

TABLE IV. (GLASGOW, 1900-01 AND 1920).

Percentage of Children under 15 years in the Vaccinated and Unvaccinated Groups.

	Vaccinated		Unvaccinated	
	1900-01	1920	1900 01	1920
Percentage under 15, ...	7·7	7·2 ...	65·6	87·8
,, over 15, ...	92·3	92·8 ...	34·4	12·2

Smallpox is thus to a greater degree a disease of childhood than it was during the last epidemic.

The general mortality-rate of 20·8 per cent. may be compared with that of 13·1 per cent. during the epidemic of 1900-01. The following table gives, for the two periods, the relative rates in relation to vaccination:—

TABLE V.

	Glasgow, 1900-01			Glasgow, 1920		
	Cases	Deaths	Mortality per cent.	Cases	Deaths	Mortality per cent.
Vaccinated in infancy, ...	1,642	150	9·1	400	60	15·0
Unvaccinated, ...	122	63	51·6	123	45	36·5
Doubtfully vaccinated, ...	46	25	54·3	19	8	42·1
	1,810	238	13·1	542	113	20·8

This table at first sight appears to show that the present outbreak as compared with the former has been more severe among the vaccinated and less severe among the unvaccinated. But before so concluding it is necessary to inquire whether differences in age-distribution as between the two epidemics might not account for this result.

The severity of outbreaks of smallpox is usually gauged by the mortality-rate, which varies in accordance with the vaccinal state and age-distribution of the persons attacked. It would seem advisable, therefore, in comparing one outbreak with another as regards relative severity, to have regard to these factors, and to make the necessary corrections in respect of age-distribution and vaccination. This procedure will be the more essential in contrasting present with past epidemics, especially in view of the altering composition of the population now exposed to risk, due to the presence in it of a relatively high proportion of unvaccinated children. These considerations have been kept in mind in comparing the present outbreak with those of 1900-01 and 1871-72 in Glasgow, and that of 1887-88 in Sheffield. That is to say, the number of deaths which would have occurred at each age-group among vaccinated, unvaccinated, and doubtfully vaccinated persons has been calculated for each of these epidemics on the basis of the age and vaccination distribution of the cases in the 1920 Glasgow outbreak, and have been utilised in the calculation of " corrected " mortality-rates. The general results of this inquiry are as follows :—

TABLE VI.

Comparison with former Epidemics; Actual and Calculated Mortality Rates compared.

	Vaccinated Mortality Rates		Unvaccinated Mortality Rates		Doubtfully Vaccinated Mortality Rates		Total Cases Mortality Rates	
	Actual	Calculated	Actual	Calculated	Actual	Calculated	Actual	Calculated
Glasgow, 1920, ...	15·0	15·0	36·5	36·5	42·1	42·1	20·8	20·8
,, 1900-01, ...	9·1	11·7	51·6	43·1	54·3	26·3	13·1	15·3
,, 1871-72, ...	8·0	6·9	31·2	35·1	23·2	11·3	15·4	14·1
Sheffield, 1887-88, ...	4·9	7·7	32·6	38·2	—	—	9·7	14·6

This comparison shows that the 1920 outbreak in Glasgow has been somewhat more severe than those with which it is compared, although not quite to the extent which the actual rates at first sight suggest. The striking difference between the actual and calculated rates for Sheffield is only partially explained by the fact that the disease attacked a smaller proportion of children in Sheffield than it did in Glasgow. (In Sheffield 12 per cent. of the patients were aged under 10, as compared with nearly 18 per cent. in Glasgow.)

The table also shows a tendency for smallpox to be more severe among the vaccinated, while among the unvaccinated the rate is slightly lower than it would have been in 1900-01, otherwise natural smallpox in this as compared with these previous outbreaks has much the same severity. As regards the doubtfully vaccinated class the number of cases is too small for any deduction to be made. In the Sheffield epidemic no similar group appears in the data.

The difference between the total rate for 1920 and the calculated rates for the other epidemics is very uniform, and may be explained by the larger proportion of unvaccinated children attacked in the present outbreak. These data would appear to suggest that the severity of the disease has not altered much, at least as regards the particular years contrasted.

The relaxation of the vaccination laws in 1907 has been largely taken advantage of in Scotland. Since that year the proportion of unvaccinated children has been gradually increasing, resulting in the exposure to infection of the more susceptible younger ages of the population. As might have been expected, and as the event showed, the present invasion of smallpox has tended to fall more heavily than formerly upon the unvaccinated.

The following data show the general trend of the relationship of age to fatality during several epidemic periods in Glasgow :—*

TABLE VII.

Proportion of deaths		1855-57	1870-72	1900-01	1920
Under 10 years of age,	...	88·8	38·5	16·4	28·3
Over 10 years of age,	...	11·2	61·5	83·6	71·7

This table, which shows a distinct tendency for the proportion of deaths at the younger ages to increase, should be read in conjunction with the following one (see Table VIII), which sets out the diminishing proportion of primary vaccinations in Glasgow between 1902 and 1918. In the years prior to 1907 the percentage of successfully vaccinated children remained fairly constant, at an average of about 84 per cent. Since then the percentage has rapidly decreased, until by 1918 it had reached the low figure of 54·4 per cent., while the proportion of statutory declarations had risen to 26·6 per cent.

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* Smallpox Report. 1900-02.—Dr. A. K. Chalmers, Medical Officer of Health, Glasgow.

SEVERITY OF ATTACK IN RELATION TO VACCINATION.

Tables showing the severity of attack in patients at different age-periods in relation to vaccination have been prepared, based on the hospital classifications, which divide the cases into grades of severity in accordance with the abundance and nature of the rash—*i.e.*, whether discrete, abundant, confluent, or hæmorrhagic. The results are summarised here as follows (see Table IX):—

TABLE VIII.*—GLASGOW.

Table showing Results of Primary Vaccination of Children during several years.

(From the Detailed Annual Reports of the Registrar-General).

Year	Successfully vaccinated	Insusceptible of vaccine disease	Died before vaccination	Conscientious objection to vaccination	Vaccination postponed	Unaccounted for
	Per cent.	Per cent.	Per cent.	Per cent	Per cent.	Per cent.
1902	84·2	0·9	10·6	—	0·8	3·5
1903	84·6	0·6	10·8	—	0·7	3·3
1904	83·4	0·7	11·0	—	1·2	3·7
1905	84·5	0·6	10·0	—	1·3	3·6
1906	82·9	0·5	10·6	0·2	0·8	5·0
1907	75·0	0·7	10·7	4·9	1·5	7·2
1908	69·5	0·8	10·8	9·2	1·7	8·0
1909	67·2	0·8	10·6	12·6	1·7	7·1
1910	64·8	0·5	9·8	16·0	1·6	7·3
1911	65·2	1·2	12·0	11·8	1·5	8·3
1912	57·3	0·6	10·4	22·0	1·8	7·9
1913	54·7	0·6	10·6	24·9	1·6	7·6
1914	51·7	0·9	12·1	25·1	1·8	8·4
1915	56·2	0·6	10·0	24·9	1·8	6·5
1916	55·2	0·7	9·7	26·6	2·1	5·7
1917	55·2	0·9	9·7	27·3	2·2	4·7
1918	54·4	1·0	10·0	26·6	2·5	5·5

Note.—1917 and 1918 figures are based on the number of births in the whole City, and the figures for the previous years on the births for the whole Registration Districts within it.

TABLE IX.

Showing Severity of Attack and Mortality in Vaccinated and Unvaccinated Patients.

	VACCINATED				UNVACCINATED			
Eruption	Number of cases	Died	Case mortality	Percentage in each group	Number of cases	Died	Case mortality	Percentage in each group
Sparse, ...	224	2	0·9	56·5	15	—	—	12·3
Abundant,	113	9	8·0	28·5	50	11	22·0	41·0
Confluent,	34	21	61·8	8·7	48	24	50·0	39·3
Hæmorhagic,	25	25	100·0	6·3	9	9	100·0	7·4
	396	57	14·4	100·0	122	43	35·5	100·0

This grouping indicates that the character of the eruption is a good index of the severity of the disease, and that the severer types prevail much more frequently among the unvaccinated than among the vaccinated. While the most severe hæmorrhagic type occurred with much the same frequency in both groups, a much larger proportion of the vaccinated contracted the disease in its milder form, and conversely the more severe forms prevailed to a greater extent among the unvaccinated. This difference in severity is strikingly shown when children and adults are compared.

TABLE X.

Showing Severity of Disease in Relation to Age and Vaccination.

	VACCINATED			UNVACCINATED		
	Number of cases	Severe	Percentage of severe cases	Number of cases	Severe	Percentage of severe cases
Under 15 years, ...	29	1	3·4	107	45	41·1
Over 15 years, ...	367	58	15·8	15	11	73·3
	396	59	14·9	122	56	46·0

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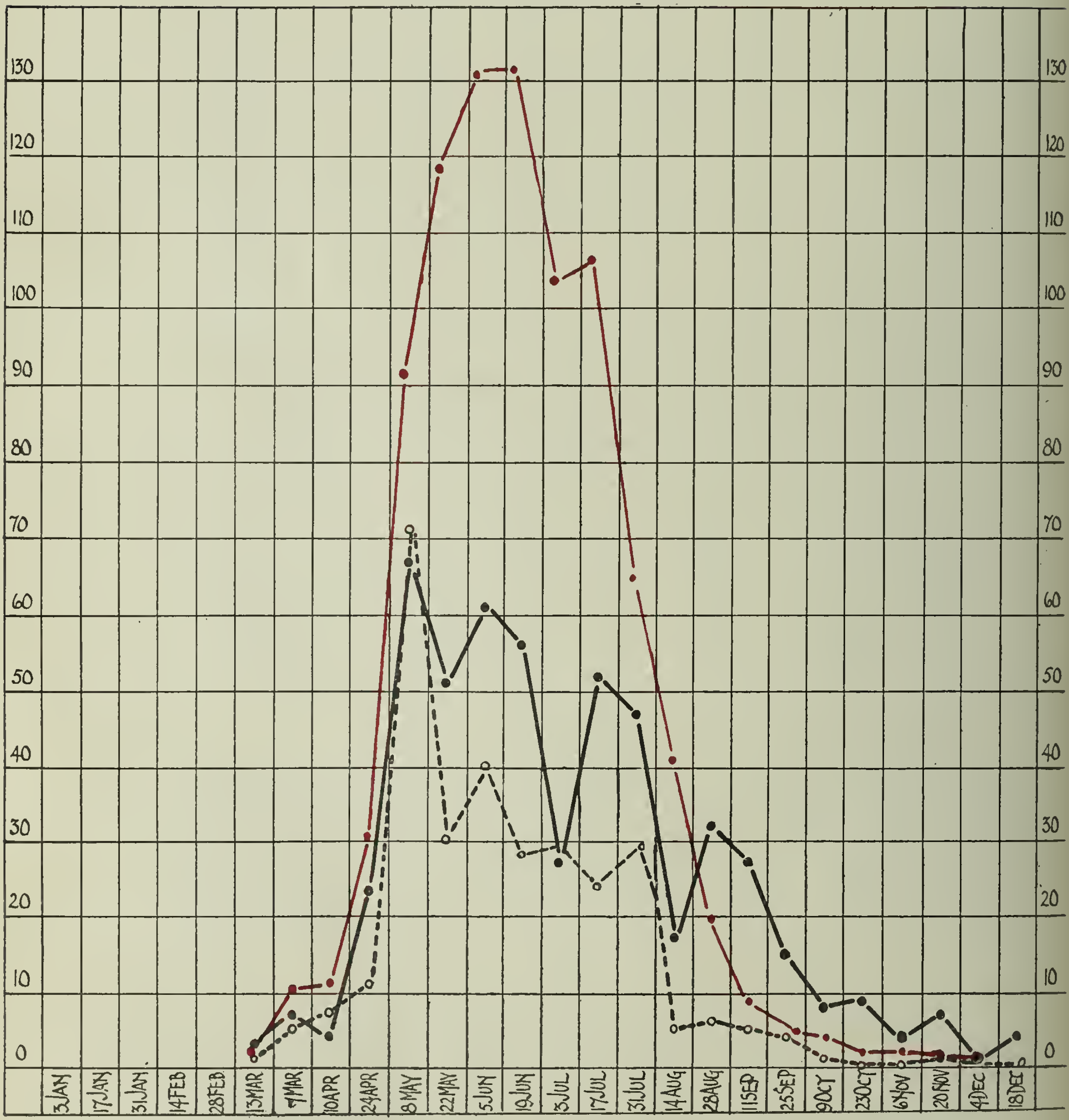
* Annual Report of Medical Officer of Health, Glasgow, 1914-19.

CHART II.

Glasgow.—Smallpox, 1920.

Chart showing (1) No. of Cases Sickening in Whole City ———
(2) ,, ,, 1¼ mile radius — — — —
(3) ,, in Hospital ———

Occurring in Fortnightly Periods.



In this table the most severe types (the confluent and hæmorrhagic) are combined and expressed as a percentage of the total cases admitted to hospital under and over 15 years of age. The result illustrates in a very striking way the behaviour of smallpox in vaccinated and unvaccinated persons. Among children under 15 years of age, of 29 who had been vaccinated, only one had a severe attack and none died; of 107 who had not been vaccinated, 45 contracted severe attacks and 37 died.

Hospital Influence.

It has been pointed out that the Eastern district of the City bore the brunt of the outbreak, and that the wards which had the highest case-rate throughout the year were the three City wards adjoining the smallpox hospital.

In his report on the epidemic of 1900-02 Dr. Chalmers quotes figures to show that in each year since 1892 when smallpox was present in the City the proportion of cases contributed by the Eastern district was uniformly in excess of the proportion of the population residing there. A similar aggregation of cases was observed during the early seventies round Parliamentary Road Hospital in the centre of the City. It appears, therefore, that this outbreak repeats the experience of former years and again raises problems concerning the influence of smallpox hospitals which have been so often discussed.

One or two general observations on the course of the outbreak in the Eastern district of the City may be made. It was among the population in this part of the City that the outbreak commenced. The first case whose source could not be traced occurred at Bridgeton Cross (which is only a mile from the hospital, and is a centre around and towards which approximately 100,000 of the population may be said to gravitate), and was infected at a time when no patients had as yet been admitted to the hospital. This was the man who, it will be remembered, appeared in public with his rash fully developed. The next untraced cases were four who became infected approximately between March 6 and 12, when there were in hospital not more than three patients. The residences of these four patients in Tollcross and Parkhead were distant from the hospital between one and one and a half miles. It cannot, therefore, be said that the hospital was responsible for originating the outbreak in its vicinity. The disease spread, however, principally in the east end, and by the middle of April a steady stream of patients was being admitted.

Spot maps have been prepared to show the distribution of cases in the infected area. The progress of the outbreak in time can also be traced from the fortnightly figures of incidence given in Table XI, and also from Chart II, where the events which took place within one and a quarter miles of the hospital are compared with those for the City as a whole. It will be observed that a sharp rise took place in the incidence of cases occurring within the specified distance from the hospital at the end of April and the beginning of May, and that the curve thereafter bore much the same relationship to that for the whole City except in its earlier and more sudden termination. The information afforded by spot maps, as also estimates of incidence in given areas based on them, should not be regarded too closely, as the spots simply indicate addresses from which patients are removed. Were it possible to indicate the actual *locus* of infection in all cases, spot maps would of course assume quite a different aspect.

There was undoubtedly ample opportunity for the spread of infection by direct contact, for there appeared to be a good deal of accidental exposure by infected persons. Reference has already been made to the occurrence of "missed" infections and to the appearance in public of patients after the rash had fully developed. It was in this way that several cases presented themselves as out-patients in doctors' consulting rooms, one or two even making their own way to the hospital gate. Small groups of cases occurred from time to time in connection with a work or factory, under circumstances suggesting the presence of a missed case or cases. The picture house is a new and probably considerable factor in the spread of infection, and visits to these were the commonest item appearing in the records of patients' movements before sickening.

These considerations should be kept in mind in endeavouring to estimate whether the presence of the smallpox hospital in the vicinity was or was not a sufficient cause for the spread of the outbreak in the eastern district of the City. The following table gives the cases sickening in houses within a radius of one and a quarter miles from the hospital and the total cases in the City, for each fortnight, along with the number of patients in hospital at the end of each fortnight:—

Table XI.—Smallpox (Glasgow), 1920. *

Fortnight ending		Number of Cases Sickening		
		Whole City	Within 1¼ mile radius of Smallpox Hospital	Number of Patients in Hospital—Belvidere
March	13,	3	1	2
,,	27,	7	5	10
April,	10,	4	7	11
,,	24,	23	11	30
May	8,	67	71	91
,,	22,	51	30	118
June	5,	61	40	130
,,	19,	56	28	131
July	3,	27	29	103
,,	17,	52	24	106
,,	31,	47	29	64†
August	14,	17	5	40
,,	28,	32	6	19
September	11,	27	5	8
,,	25,	15	4	4
October	9,	8	1	4
,,	23,	9	—	3
November	6,	4	—	—
,,	20,	7	1	—
December	4,	1	—	—
,,	18,	4	—	—
,,	31,	11	—	—
		533	297‡	

In this table data are given on which to compare the behaviour of smallpox within a given distance from the hospital with its progress throughout the City and with the concentration of cases in the hospital. It will be noted that during the fortnight ended May 8 there was a sudden increase in incidence within the special circle from 11 to 71 cases. These 71 cases would have become infected during the previous two weeks, at a time when the numbers in hospital varied from 11 to 30. On the other hand, the next three fortnights show a decided fall in cases from the vicinity of the hospital, while the concentration of patients in the hospital was rapidly increasing, and while the total cases in the City were not showing any tendency to diminution. The events which followed the closure of the hospital in the eastern district to further admissions on July 19 are interesting. During the fortnight ending August 14 there was a sharp fall in cases from within the special circle. By then the outbreak in the immediate vicinity of the hospital had practically died out, although the hospital still retained considerable numbers of patients —the majority convalescent, but still many in the crusting stage.

These considerations do not suggest that the influence of a smallpox hospital on the surrounding neighbourhood is one of any great magnitude or that it operates to any extent by means of aerial convection from the hospital itself. The outbreak in the vicinity of the hospital rapidly increased to a maximum during the fortnight ending May 8 ; a sudden drop took place during the next fortnight; for two months its incidence tended to fall slowly, and a second marked drop occurred during the fortnight ended July 31, after which there were only a few sporadic cases. It may be argued that had the course of this group of cases depended to any great extent on the influence exerted by the hospital in their midst some more definite relationship to concentration of cases in hospital would have been manifest in the curve of incidence, especially during May, when the infectivity of the disease was apparently at its highest. Indeed, it appears as if this outbreak proceeded more in accordance with an epidemic law than in obedience to any other extrinsic influence, and that its rise and progress near the hospital may have been simply an accident of location.

There remains, however, to be considered the important fact that the closure of the hospital to further admissions on July 19 was succeeded by a drop during the fortnight ending August 14 to five from 29 during the previous period in the cases admitted from the immediate vicinity of the hospital. In fact this fall practically marked the extinction of the epidemic in the eastern district of the City. It would not be quite fair to assume that these two facts are directly related, because

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* Of the 20 cases which occurred during Jan.-March, 1921, only two cases were within the 1¼-mile radius from the Hospital, their dates of sickening being 21st February and 10th March.

† July 19—No further patients admitted to Belvidere ; Robroyston Smallpox Hospital opens.

‡ A few cases which occurred outside the city boundary but within the radius are included.

by that time the close and special attention which the eastern district of the City received during the vaccination campaign (described in a previous section) would no doubt be having a sensible effect in reducing the proportion of susceptible persons in the population, as compared with other districts where a house-to-house canvass was not wholly carried out as it was in the east end. A scrutiny of the vaccination returns pertaining to the district in question shows, however, that not more than 30 per cent. of the population were vaccinated or revaccinated during the outbreak, which cannot therefore be said to have ceased for lack of material. There are thus two possible explanations for the final behaviour of smallpox in the east end. It either came to a natural termination or the hospital suddenly ceased to create foci of infection. Which of these may have been the determining factor, or whether both operated in different degrees, it is impossible to say.

The continuance of the outbreak in other districts of the City after it had greatly diminished and finally ceased altogether in the eastern district, following upon the closure of one hospital and the opening of another, certainly suggests that a smallpox hospital may play some part in fostering a prevalence in its neighbourhood, but, if this be so, by what precise means and to what extent is not clear. It has been suggested that the influence of a smallpox hospital may be in some measure related to its activity in regard to the admission of cases. The data given above have tended to negative any gross relationship between the course of the outbreak near the hospital and the massing of cases in it, and the same criticism would apply to the theory of admission traffic as having any marked effect in determining the aggregation of cases in the vicinity.

Further, if traffic has any share in the matter, it would appear that the carriage of infected patients and the transport of infected clothing do not involve similar risks, as, while patients ceased to be admitted to Belvidere after July 19, no change was made in the destination of infected clothing, which is still conveyed to the wash-house there for disinfection.

In conclusion, the evidence disclosed by the facts of this outbreak does not enable the factors influencing its course to be clearly differentiated, and the question is still left indeterminate. It may be that the influence of the hospital in this case was entirely negative. On the other hand there is some evidence that the termination of the outbreak round the hospital may have had some relation to the sudden cessation of admissions.

Cases occurring after July 19 were sent to the Smallpox Hospital at Robroyston, which is well isolated and situated fully three miles from any large group of the City population. No further outbreak of the disease has occurred of sufficient magnitude to test the effect of this new policy on the incidence of the disease in the City, but should smallpox recur in future years an excellent experimental test will be able to be made in comparing the new conditions with the old.

SUMMARY.

(1) Viewed historically, the present outbreak in Glasgow belongs rather to an inter-epidemic than to an epidemic period. Its progress has had distinct silimarities to the outbreaks of smallpox in the nineties, with their flat curves of incidence, irregular wave-like progression, and comparatively low infectivity. The undulatory character of the wave of incidence has been a very striking and peculiar feature of this invasion.

(2) The general mortality rate of 20·8 per cent. indicates a severity which characterises the eastern more than the western type of the disease.

(3) Compared with the epidemics of the last fifty years, children contributed a higher proportion of the cases and of the deaths. The percentage of deaths under the age of 10 to total deaths has risen from 16·4 per cent. in 1900-01 to 28·3 during the present outbreak. This, as might have been expected, is a direct result of the decline which has taken place in the practice of infant vaccination since 1907.

(4) The behaviour of smallpox among those who had been vaccinated in infancy and those who had not may be expressed as follows:—The unvaccinated had a death-rate of 36·5 per cent., as against 15 per cent. among the vaccinated. Among children under 15 years of age, of 29 who had been vaccinated in infancy, only one had a severe attack and none died; of 107 who had not been vaccinated, 45 contracted severe smallpox and 37 died.

(5) In comparing the severity of one outbreak with another it will be necessary to take into account the alteration in age-incidence which is taking place and make corrections accordingly.

(6) The distribution of the cases in the eastern district of the City again raises the question of the influence of a smallpox hospital in causing an aggregation of cases in its vicinity. The facts of the present experience of smallpox do not demonstrate to what extent the hospital influenced the incidence around it, nor do they clearly indicate by what means infection may have been conveyed to the surrounding neighbourhood. The problem is still left undetermined.

ADDENDUM.

Since the foregoing report on the outbreak of smallpox was prepared several additional cases occurred in the City, and the outbreak finally terminated in March, 1921. During its whole course 578 cases of smallpox were dealt with, 125 of whom died; all except 3, who died at home, were treated in hospital, 549 being from the City itself and 26 from districts immediately outwith the City boundary.

In order to bring the information up to date, and to complete the review of the outbreak as a whole, the following supplementary notes are added :—

To Table III there fall to be added 36 additional cases, occurring as follows :—December, 1920, 16; January, 1921, 14; February, 5; March, 1.

The following table gives the information as to age, vaccination, and mortality of these additional cases :—

SUPPLEMENTARY TABLE SHEWING ANALYSIS OF ADDITIONAL CASES OCCURRING DECEMBER, 1920–MARCH, 1921.

Age Group	Vaccinated	Died	Unvaccinated	Died	Vaccination Doubtful	Died	Total	Deaths
0-1	—	—	1	—	—	—	1	—
1-5	—	—	—	—	—	—	–	—
5-10	—	—	1	—	—	—	1	—
10-15	1	—	2	1	—	—	3	1
15-20	1	—	—	—	—	—	1	—
20-25	1	—	1	1	—	—	2	1
25-35	7	—	—	—	1	—	8	—
35-45	6	2	—	—	—	—	6	2
45-55	8	6	—	—	1	1	9	7
55-65	4	1	—	—	—	—	4	1
65—	1	—	—	—	—	—	1	—
	29	9	5	2	2	1	36	12

Summarising this Table along with Table III. of the preceding report, the vaccination and mortality figures for the whole outbreak are as follows :—

	Vaccinated	Died	Unvaccinated	Died	Vaccination Doubtful	Died	Total cases	Died
	429	69	128	47	21	9	578	125
Mortality per cent.,	16·1		36·7		42·9		21·6	

The general fatality-rate for the outbreak as a whole was 21·6 per cent.; the unvaccinated had a fatality-rate of 36·7 per cent., as against 16·1 per cent. among the vaccinated, and 42·9 per cent. among the doubtful vaccinated. The relative severity of the disease in vaccinated and unvaccinated children and adults is shown as follows :—

	Vaccinated		Unvaccinated	
	Cases	Deaths	Cases	Deaths
Under 15 years, ...	30	—	112	38
Over 15 years, ...	399	69	16	9
	429	69	128	47

The percentage of deaths under the age of ten to total deaths during the outbreak was 25·6, as compared with 16·4 per cent. during the epidemic of 1900-01.

The usual procedure adopted in connection with smallpox is to offer vaccination to all known contacts, persons living at the same address, all workers at places of employment, and the removal to reception-house of contacts who cannot be kept under effective observation at home. When it was recognised that the disease threatened to become established in the east end of the City, the Corporation approved of measures for offering free vaccination generally through the City, and on 13th May a circular letter was issued to medical practitioners in the following terms:—

CIRCULAR TO PRACTITIONERS.

Public Health Office,
23 Montrose Street,
Glasgow, 13th May, 1920.

Dear Sir or Madam,

Smallpox.—Vaccination.

In view of the present distribution of smallpox in Glasgow, the Committee on Health is desirous of affording every citizen an opportunity of protection against the disease by vaccination.

I have, therefore, to invite your co-operation in this scheme, which will include unvaccinated children, and the revaccination of all persons who have not been vaccinated within ten years. Lymph will be supplied free. Insured persons are invited to apply to their panel doctors. A fee of 2s. 6d. will be paid for the vaccination of other persons within the foregoing categories.

A schedule will accompany each supply of lymph, and as the accounts will be paid thereon, it is requested that they be returned as soon after completion as possible.

Vaccination Areas.—It is also the desire of the Corporation to carry out house-to-house visitation for the vaccination of persons in the areas mainly affected. The survey areas of the Valuation Roll will be adopted as the basis of this—the number of houses in each varying from about 170 to 250.

The committee feel sure that they can rely on the co-operation of the medical profession, and I shall be glad if those who are free to take up any of these areas will return the enclosed post card.

Efficient primary vaccination requires that the total area of vesiculation produced is not less than half-a-square inch in size on the eighth day.

Yours faithfully,
A. K. CHALMERS.

Special diets were also arranged at the Corporation dispensaries, where free vaccination was done, while arrangements were made to open rooms at Parkhead Public School as a convenient centre for free vaccination in the area which was at that time most affected.

A "house-to-house" visitation of the whole of the east end of the City was also organised by a corps of vaccinators, mostly medical students. Certain parts of the south side, where the disease showed some evidence of spreading, were also treated in this way, but the practice was not extended to other parts of the City where the stimulus of occurring cases was not felt, and a preliminary offer did not meet with much success. To some extent this, of course, was due to the large numbers who had been vaccinated by their own practitioners, by officers of the department in connection with contacts, or school children vaccinated by the medical officers of the Education Authority, who had taken up the matter in co-operation with this department.

A small poster calling the attention of the public to the widespread nature of the epidemic, and describing the symptoms of the disease and the appearance of the rash, &c., was displayed in all tram cars and many of the larger public works.

The Board of Health, recognising the serious nature of the outbreak, organised a supply of lymph, which was sent free to all Local Authorities, with the suggestion that, owing to the approaching holiday season, and the possible extension of the epidemic over a considerable area, vaccination should be offered to all persons, while later (in September) the Public Health (Chickenpox) Regulations (Scotland), 1920, were issued, making chickenpox compulsorily notifiable for a period of six months throughout Scotland.

Compulsory notification had already been adopted in Glasgow in the preceding April, when the Corporation added it to the list of notifiable diseases under Section (7), Sub-section (6) of the Infectious Disease

(Notification) Act, 1889, in the following terms:—

> "That in respect of the existence of smallpox, the possibility of modified cases of that disease being mistaken for chickenpox and the emergency thereby created, the Infectious Disease (Notification) Act, 1889, shall for a period of three months, from 1st May, 1920, till 31st July, 1920, apply to chickenpox in the district of the Local Authority and the City of the Royal Burgh of Glasgow."

This compulsory notification was later extended by the Corporation.

VACCINATION.

The numbers of persons vaccinated or revaccinated during the year, under the arrangements referred to above, are given in the following statement:—

At Dispensaries, ...	18,000
By private practitioners, ...	160,076
By Inspectors in tenements, ...	14,224
By house-to-house visitation, ...	9,982
By Inspectors in public works, &c., ...	6,080
By Education Authority in schools, ...	14,848
In Local Authority Hospitals, ...	2,600
Total, ...	225,810

Free vaccination, which had formerly been carried on at two weekly diets at the Sanitary Chambers, was extended in 1914 to all infant consultations, and the success which had attended this arrangement is indicated in the following statement:—

Statement showing Number of Infants Vaccinated at the Child Welfare Consultations during the Years 1918-1920.

	1918	1919	1920
Public Health Office, ...	39	49	60
Garngad, ...	69	84	57
Franklin Street, ...	29	*—	—
Port Street, ...	31	62	78
Ruchill, ...	44	68	68
Merryland Street, ...	48	45	57
Adelphi Street, ...	78	123	138
Partick, ...	56	85	110
Claythorn Street, ...	10	*—	—
Kinning Park, ...	39	—	†40
Brown Street, ...	24	117	63
Shettleston, ...	35	95	96
Campbellfield Street.	64	81	143
Cowcaddens, ...	57	104	136
Elder Hospital, ...	—	27	43
	623	940	1,089

It should be stated, however, that the numbers had fallen to about 250 before the new arrangement of district centres was adopted in 1914. The large numbers during 1920 are no doubt due to the attention directed to vaccination because of the prevalence of smallpox.

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* Transferred to Brown Street, June, 1918. † Transferred to Weir Street Clinic.

VACCINATION (SCOTLAND) ACT, 1907.

The following shows the number of declarations of conscientious objection to vaccination made each year since the Act came into operation:—

1907, ...	407	1914, ...	7,580
1908, ...	2,183	1915, ...	7,062
1909, ...	2,653	1916, ...	7,013
1910, ...	3,231	1917, ...	7,017
1911, ...	3,791	1918, ...	6,049
1912, ...	4,371	1919, ...	6,489
1913, ...	6,804	1920, ...	4.342

Table VIII, on page 54, which in former years has formed part of this section of the Report, is not repeated, as the Registrar-General's Report is not yet available with the information for 1919. It is of interest, however, to note that a scrutiny of the number of children of older ages vaccinated for the first time corresponds with the number in respect of which conscientious objection declarations have been made since the 1907 Act came into operation.

TYPHUS FEVER.

Only 9 cases of this disease were recorded during 1920, as compared with 33 in 1919 and 55 in 1918. These cases were distributed in the wards as follows:—

Springburn, ...	1	Kingston, ...	3
Hutchesontown, ...	3	Plantation, ...	2

The death-rate for several periods has been as follows:—

1881-90, ...	·040 per 1,000	1915, ...	·000 per 1,000
1891-1900, ...	·016 ,,	1916, ...	·005 ,,
1901-10, ...	·006 ,,	1917, ...	·001 ,,
1911, ...	·004 ,,	1918, ...	·009 ,,
1912, ...	·003 ,,	1919, ...	·007 ,,
1913, ...	·036 ,,	1920, ...	·002 ,,
1914, ...	·002 ,,		

ENTERIC FEVER.

The lessened prevalence of enteric fever which was a marked feature of the disease during the later years of the war has not been continued, as the case-rate for 1920—204 per million—almost reverted to the rate of 1915. To a large extent, of course, the low prevalence recorded during 1917-19 was due to the fact that a large proportion of men of susceptible ages were on war service.

The protective value of the vaccine treatment of the male population after return from the Army may explain the equal incidence of the disease in the sexes, as 113 male and 114 female cases were affected in 1920, while in pre-war days the number of male cases exceeded those of females.

One important feature of the age distribution, however, is that, whereas the sex distribution of cases under 5 is practically equal, the numbers at school ages are in proportion of 40 males to 29 females.

Kinning Park was most heavily affected during 1920.

For several periods the death-rate from enteric fever in Glasgow has been—

1881-1890, - -	·230 per 1,000	1915, - - -	·050 per 1,000
1891-1900, - -	·215 ,,	1916, - - -	·036 ,,
1901-1910, - -	·127 ,,	1917, - - -	·013 ,,
1911, - -	·075 ,,	1918, - - -	·025 ,,
1912, - -	·051 ,,	1919, - - -	·014 ,,
1913, - -	·036 ,,	1920, - - -	·027 ,,
1914, - - -	·077 ,,		

The following table gives the case-mortality for each year since 1918, together with the mortality:—

	1918	1919	1920
Per cent. treated in hospital, - - -	92	92	93
Case-mortality per cent., - - -	20	14	13
,, in hospital, - - -	18	13	11
,, at home, - - -	46	22	44

SCARLET FEVER.

In 1920, 3,767 cases of the disease were recorded, of which all but 198 were removed to hospital, representing a removal rate of 95 per cent. The number of cases is almost 50 per cent. in excess of that of 1919, and nearly three times the total cases recorded in 1918, which, however, was the lowest recorded in the City as extended in 1912. The case-morbidity rate fell to 1·6 per cent., as compared with 1·8 in 1919 and 1·9 in 1918, and is less than half the rates obtaining in the preceding years.

The number of return cases—*i.e.*, cases sickening after dismissal of a previous case from hospital—has increased only in ratio to the number of cases occurring, as the percentage of 2 has remained uniform during the past three years. Of the return cases 40 per cent. occurred within one week of the hospital dismissal, 51 per cent. within two weeks, and 9 per cent. over that period.

The percentage of secondary cases remains fairly constant at 3, 70 per cent. occurring within one week after disinfection for a previous case, 24 per cent. within two weeks, and 6 per cent. over that period.

The death-rate from the disease since 1881 has been as follows:—

1881-90,... ...	·490 per 1,000	1915, ...	·261 per 1,000
1891-1900, ...	·295 ,,	1916, ...	·147 ,,
1901-10,... ...	·116 ,,	1917, ...	·033 ,,
1911, ...	·116 ,,	1918, ...	·022 ,,
1912, ...	·093 ,,	1919, ...	·044 ,,
1913, ...	·131 ,,	1920, ...	·053 ,,
1914, ...	·215 ,,		

The percentage treated in hospital and mortality of cases treated in hospital and at home were as follows:—

	1918	1919	1920
Per cent. treated in hospital, ...	93	95	95
Case-mortality per cent.,...	1·9	1·8	1·6
,, ,, in hospital, ...	1·9	1·8	1·4
,, ,, at home, ...	—	—	5·1

Glasgow, 1914-1920.—SCARLET Fever.—RETURN Cases.—Time Elapsing between Return of Earlier and Sickening of Subsequent Cases.

Year.	– 1 week.	– 2 weeks.	– 3 weeks and over.	Total.	Percentage of total Dismissals.
1914, ...	69	52	48	169	3
1915, ...	82	64	67	213	4
1916, ...	62	77	86	225	6
1917, ...	13	22	21	56	3
1918, ...	5	14	10	29	2
1919, ...	16	21	7	44	2
1920, ...	24	31	6	61	2

Glasgow, 1914-1920.—SCARLET Fever.—SECONDARY Cases occurring in Household after Disinfection.

Year.		– 1 week.	– 2 weeks.	3 weeks and over.	Total.	Percentage of cases removed to hospital.
1914,	...	37	8	5	50	1
1915,	...	125	55	32	212	4
1916,	...	57	24	18	99	3
1917,	...	39	9	9	57	3
1918,	...	23	8	8	39	3
1919,	...	42	15	15	72	3
1920,	...	80	27	7	114	3

DIPHTHERIA AND MEMBRANOUS GROUP.

A slightly increased prevalence of these diseases was also recorded, the rise having been continuous since 1917, when the lowest rate in recent years occurred, but the mortality-rate at 144 per million remains the same as the preceding year. Of the total cases occurring, 852 were males and 1,165 females. This disparity in the attack-rate of the sexes is true only of ages after 15, when females are much more heavily affected, probably due to the fact that their constant contact with children gives them more frequent opportunity of infection.

The following table shows the death-rates per 1,000 living since 1881:—

1881-90,	...	·280 per 1,000 living.	1914	..	·145 per 1,000 living.
1891-1900,	...	·231 ,,	1915,	...	·155 ,,
1901-05,	...	·134 ,,	1916,	...	·126 ,,
1906-10,	...	·205 ,,	1917,	...	·138 ,,
1911, ...	...	·221 ,,	1918.	...	·164 ,,
1912, ...	...	·232 ,,	1919,	...	·144 ,,
1913, ...	...	·181 ,,	1920,	...	·144 ,,

The case-rate since 1914 is shown in Appendix Table XVIII.

In the following table the percentages treated in hospital and mortality of hospital and home cases are given:—

			1918	1919	1920
Percentage treated in hospital,	...	...	96	90	95
Case mortality per cent., ...	...	...	11·9	8·9	8·0
,, in hospital, ...	...	...	11·2	9·1	7·6
,, at home, ...	...	...	31·0	4·4	15·5

ERYSIPELAS.

1,090 cases of erysipelas were recorded during the year (493 were males, 597 were females); 489 were removed to hospital. This again is an increase over the preceding year, and, although not so numerous as in pre-war days, it reflects to a certain extent the effect of the relaxation of the restrictions on the sale of liquor, which coincided with reduced numbers occurring towards the end of the war. The age distribution of the cases registered during the year indicates that females under 35 years of age are more liable to the disease than males, but between 35 and 45 the male cases almost double the number of females.

CEREBRO-SPINAL FEVER.

85 cases were recorded, as compared with 80 during the preceding year, and 75 in 1918.

ACUTE ENCEPHALITIS LETHARGICA, ACUTE POLIO-ENCEPHALITIS, AND ACUTE POLIOMYELITIS.

This group of diseases of the central nervous system was responsible for 70 cases in all, 63 of which were ascribed to acute encephalitis lethargica, 3 to acute encephalitis, and 4 to acute poliomyelitis. No special grouping of these diseases was noted, their occurrence being widely spread over the City. The seasonal incidence would appear to indicate late spring and early summer as the period during which they are most numerous. The highest numbers recorded in any month for the first disease were 11 in May and 10 in April.

The sex distribution of acute encephalitis lethargica shows 46 males and 17 females, the disparity at ages 5 to 20 being even greater, with 25 males, compared with 6 females.

TROPICAL DISEASES.

Of these diseases 1,064 were notified as malaria and 81 of dysentery, all of which, with the exception of 34 and 10 respectively, were either treated at the dispensaries or at home. All the cases of malaria were males, while two cases of dysentery in females were recorded. No case of either disease was registered under 15 years of age.

The method of treatment was described in last year's report, and from 22nd November, when the dispensaries were opened, until 31st December 814 attendances were recorded. The following is a note of the diets held:—

Adelphi Street—Tuesday, at 6 p.m. (2 diets).
Black Street—Wednesday, at 1.30 p.m. (2 diets).
Wednesday, at 6 p.m. (2 diets).
Friday, at 6 p.m.
Elmbank Crescent—Monday, at 1.30 p.m. (2 diets).
Monday, at 6 p.m. (2 diets).
Thursday, at 1.30 p.m. (2 diets).
Friday, at 6 p.m. (2 diets).

PNEUMONIA AND INFLUENZA.

These are dealt with under the section on respiratory diseases.

MEASLES.

Some inquiry was made as to the effect of hospital treatment on the incidence of both measles and whooping-cough, but diagrams showing the fluctuations from year to year are not included in this Report.

The number of cases occurring and the number treated in hospital are given in Appendix Table XVII, and the death-rates in Appendix Table VII.

For several periods the death-rate has been as follows:—

1881-90, ...	·680 per 1,000	1915, ...	·866 per 1,000
1891-1900, ...	·784 ,,	1916, ...	·471 ,,
1901-10, ...	·573 ,,	1917, ...	·569 ,,
1911, ...	·375 ,,	1918, ...	·332 ,,
1912, ...	·664 ,,	1919, ...	·294 ,,
1913, ...	·560 ,,	1920, ...	·279 ,,
1914, ...	·465 ,,		

WHOOPING-COUGH.

The death-rate from the disease for several periods has been as follows:—

1881-90, ...	1·150 per 1,000 living.		1915, ...	·943 per 1,000 living.
1891-1900, ...	·879 ,,		1916, ...	·148 ,,
1901-10, ...	·750 ,,		1917, ...	·775 ,,
1911, ...	·625 ,,		1918, ...	·371 ,,
1912, ...	·307 ,,		1919, ...	·565 ,,
1913, ...	·729 ,,		1920, ...	·130 ,,
1914, ...	·496 ,,			

The number of cases and deaths registered and the death-rate per million living during the years 1918-20 are as follows:—

	Cases	Deaths	Death-rate per Million Living
1918,	4,038	413	371
1919.	6,709	630	565
1920,	2,671	145	130

The disease was most fatal in 1915, although most prevalent in 1917. The fatality of 1915 was associated with the climatic conditions favourable to lung complications prevailing during the early part of the year.

The number removed to hospital is shown in Appendix Table XVII.

CHICKENPOX.

5,602 cases of this disease were recorded during 1920. This is more than double the number recorded during the preceding year, and is the highest yearly total hitherto registered. Compulsory notification began on 1st May because of the prevalence of smallpox, as already stated. It is noteworthy that the disease showed some considerable prevalence in the early part of the year before the first cases of the epidemic of smallpox were recorded.

By far the larger proportion of cases were between the ages of 10 and 15, when almost 3,200 of the total were recorded. The sex distribution of the cases was almost equally proportioned.

OTHER INFECTIOUS DISEASES.

In Appendix Table XVII a note is made of a number of other infectious diseases dealt with. Of these the more important are influenza, anthrax, and Trachoma.

Influenza is not notifiable, only acute influenzal pneumonia being included under the Infectious Disease Regulations of 1919. Cases of influenza, however, brought to the notice of the department have been recorded, the greater proportion because of the fact that hospital treatment was necessary. In all 383 cases were registered, 210 of which were treated in hospital.

Almost all the cases were registered during the first five months of the year, the largest number being in April. Although a number of deaths from this cause were at that time recorded, at no time was there any suggestion that the severe symptoms which attended the prevalence of the disease in the outbreak of 1918-19 were again present. The sex distribution shows 205 were males and 170 females, while the age of maximum attack was 35-45 years.

Anthrax.—During the year one case of anthrax in man was recorded. The patient, a flour miller, aged 37 years, residing on the South Side of the River, was admitted to the Victoria Infirmary, where he was discovered to be suffering from anthrax, and was removed to Ruchill Hospital on 9th April. The history of the case indicates that the illness began with a pimple on the left side of his neck on 5th April, which became considerably swollen two days later. A smear taken from the pustule on the patient's admission to Ruchill Hospital was found to contain the *b. anthracis.* The pustule was incised on the 9th, but the patient died the following day without regaining consciousness.

Patient was in the habit of being shaved at a barber's shop in the South Side, and an examination of the brush that was used showed that it was infected with anthrax, while of a number of shaving brushes obtained by the wholesaler who supplied the barber two were afterwards found to be also infected.

Anthrax in Animals.—The following is a record of anthrax among animals:—

Date	Animal	Action taken
30th April,	Cow—Springburn Byre,	Carcase destroyed.
,,	Cow—Annfield Street Byre,	,, ,,
14th May,	Cow—Springburn Byre,	,, ,,
12th Nov.,	Cow—Renfrewshire Byre,	Carcase was received at Moore Street, and afterwards destroyed.

RABIES.

No case of rabies is known to have occurred, but a number of persons bitten by dogs were reported by the police for inquiry. These are shown in relation to the season of occurrence and the severity of the bite:—

	Slight	Serious
1st quarter,	36	1
2nd quarter,	52	4
3rd quarter,	91	1
4th quarter,	33	...
	212	6
	218	

1919, ... 449. 1918, ... 77.

TRACHOMA.

The occurrence of this disease, together with its compulsory notification in Glasgow and provisions for treatment were fully described in last year's Report.

During 1920, 95 notifications were received, 18 of which were duplicates, so that 77 new cases were brought to the notice of the department. The places of birth of these cases were:—

Scotland,	58	Burmah,	1
Ireland,	6	Unknown,	8
Russia,	4		

The age and sex distribution of these were as follows:—

Age	Males	Females	Total
- 5,	1	1	2
- 10,	4	4	8
- 15,	4	8	12
- 20,	6	6	12
- 25,	5	8	13
- 35,	10	4	14
- 45,	5	4	9
- 55,	1	...	1
- 65,	1	3	4
+ 65,	1	1	2
	38	39	77

Of the total cases 18 were in attendance at school, and only in two schools were multiple new cases recorded—two in each.

Of the 77 cases 18 were admitted to hospital, as the necessary treatment could not conveniently be undertaken at dispensary. The following is a statement of the total cases on the Register during the year:—

1. *Still under Treatment*—		
Corporation Dispensaries, ...	108	
Other Dispensaries,	6	
Treated by Private Practitioners,	15	
Institutions,	9	
	—	138
2. *Not under Treatment*—		
Eyes stated to be well,	21	
Refused treatment or unable to attend,	19	
	—	40
3. *Discharged from Corporation Dispensary*—		
Eyes good,	95	
Not Trachoma,	98	
Dead, ...	6	
	—	199
4. *Others*—		
Left City,	47	
Removed before completion of treatment and not found,	63	
Beyond Boundary,	32	
	—	142

TETANUS.

In January a stock of 15,000 phials of 15,000 units each of anti-tetanus serum—surplus to army medical requirements—was obtained from the Scottish Board of Health, and an intimation was sent on 28th January to hospitals and medical practitioners, stating that this would be placed at their disposal for treatment of cases of tetanus. The serum, it was stated, might be of advantage for prophylactic purposes, such as for wounds contaminated with earth from roadways or manured fields, punctured wounds, wounds with much contusion and laceration, or of such character otherwise as might suggest the desirability of its use. Very few applications, however, for this anti-toxin were received, and no record of cases in which it was used is available.

SECTION V.

RESPIRATORY DISEASES.

PHTHISIS.

The reduction in the death-rate from tuberculosis since 1881 has been fairly uniform, although the rate has varied from year to year. During 1920, as will be seen from the following summary, the rate is slightly higher, being 1,062 per million, as compared with 1,057 during the preceding year, which, however, was exceptionally low.

1881-90, -	2·680	per 1,000 living.	1915, -	1·386	per 1,000 living.
1891-1900,	2·015	„	1916, -	1·319	„
1901-1910,	1·533	„	1917, -	1·271	„
1911, -	1·305	„	1918, -	1·245	„
1912, -	1·318	„	1919, -	1·057	„
1913, -	1·412	„	1920, -	1·062	„
1914, -	1·310	„			

In several large towns the death-rate for the years 1914-1919 has been:—

PHTHISIS DEATH-RATE PER 100,000 IN CERTAIN TOWNS.

	1914	1915	1916	1917	1918	1919	1920
Glasgow, ...	**130**	**137**	**132**	**127**	**124**	**104**	**106**
Edinburgh, ...	117	114	108	118	96	95	85
Dundee, ...	144	154	143	120	141	89	99
Aberdeen, ...	105	131	115	112	111	86	93
London, ...	143	160	153	171	178	122	106
Liverpool, ...	163	186	181	197	208	145	141
Manchester. ...	177	192	184	186	180	133	117
Birmingham, ...	123	133	131	136	135	116	95

The general decline in the death-rate from tuberculosis is graphically shown on the accompanying chart, which gives the rates in Glasgow since registration in 1855.

The following summaries refer to the cases notified during 1920, together with a comparison since the introduction of compulsory notification of pulmonary tuberculosis in 1910 and non-pulmonary forms in 1914:—

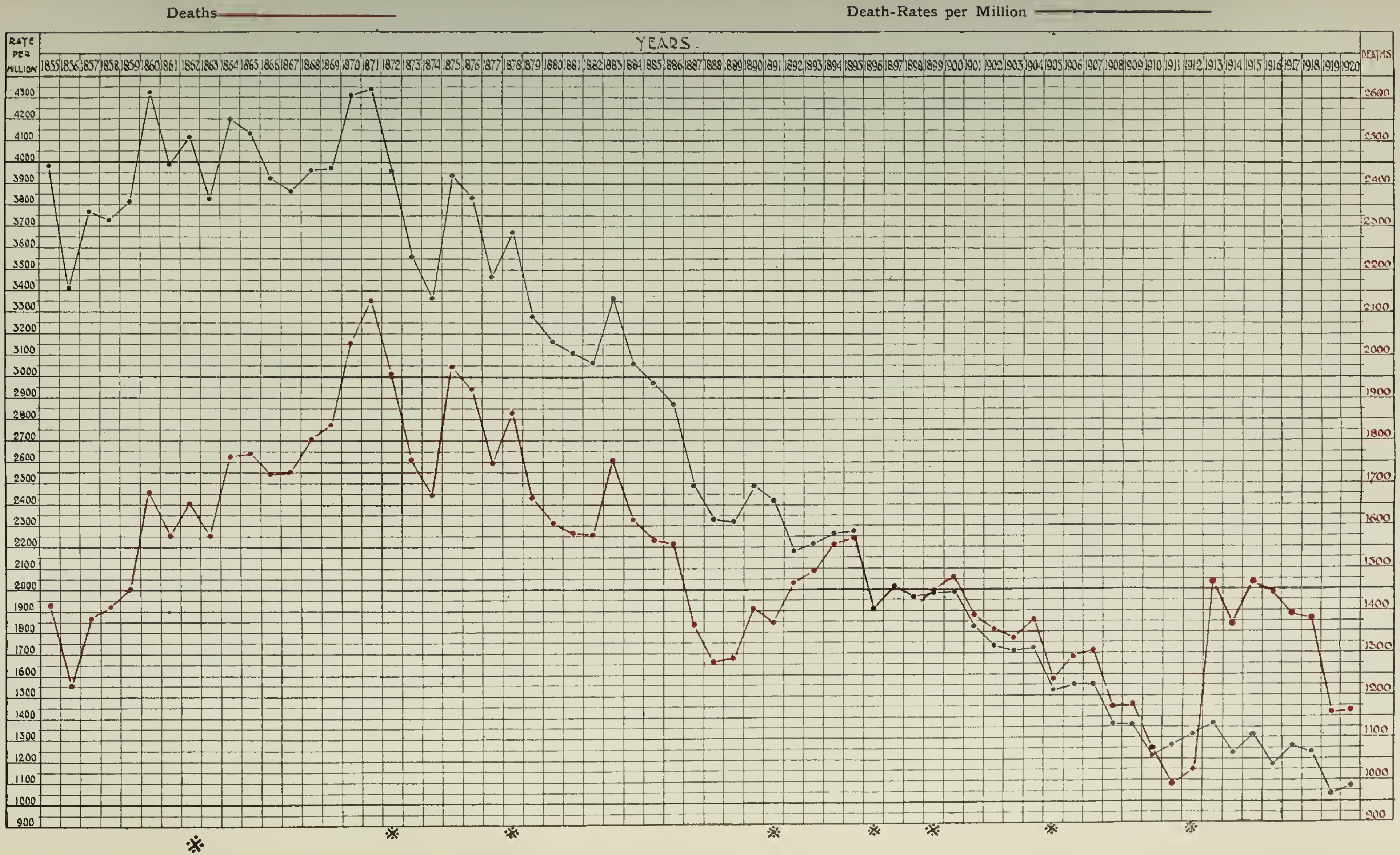
SUMMARY OF CASES AS AT 31ST DECEMBER, 1920.

Total cases registered from 1st January, 1910, to 31st December, 1920, ...		27,833
Less—Died, ...	15,034	
(1) Verified on notification, but subsequently—		
Removed and not traced, ...	1,938	
Removed from Glasgow, ...	1,765	
(2) Not discovered on notification:—		
Not found at address given, ...	1,054	
Notified from Poor Law Institution (with no fixed abode) but still remaining on Register, ...	499	
(3) Subsequently taken off records as not suffering from pulmonary tuberculosis, ...	944	
		21,234
Total cases under observation at 31st December, 1920, ...		6.599

Altogether there have been registered during the eleven years ending 31st December, 1920, 27,833 cases, of which 15,034 (or over 54 per cent.) are known to have died during the same period, while 1,938 had removed from the addresses given and could not be traced, 1,765 left the City,

PHTHISIS IN GLASGOW.

Chart showing Deaths and Death-Rates per Million for Years 1855-1920.



* Extensions of Boundaries occurred in the years thus marked.

and 1,054 were not found at the addresses given. The total number of cases remaining under observation at the end of the year was 6,599.

The following table gives the number of cases registered in each year since the beginning of notification in 1910:—

Year	Cases Registered	Year	Cases Registered
1910,	3,506	1915,	2,332
1911,	2,326	1916,	2.516
1912,	2,340	1917,	2,682
From added area,	335	1918,	2,513
1913,	2,534	1919,	2,099
1914,	2,410	1920,	2,240

Total—27,833

Cases registered during 1920.—As shown above, the number of cases registered during the year 1920 was 2,240. Of these, 2,033 were notified in terms of the Infectious Disease (Notification) Act, 1889, and Tuberculosis Regulations, 1912. 67 were sent by Military Authorities, while 140 were ascertained from other sources, as shown below:—

1. *Source of Notified Cases*:—			
1. Occurring in private practice,			1,118
2. Occurring in public practice:—			
(*a*) Poor Law cases at home addresses,	83		
Poor Law cases from hospitals and poorhouses,	189		
Poor Law cases at dispensaries,	9		
		281	
(*b*) Charitable dispensaries and infirmaries,	131		
Corporation dispensaries,	503		
		634	
			915
Total cases notified,			2,033
2. *Source of Information in Cases not notified*:—			
(*a*) From admission and dismissal sheets of Poor Law Institutions,		7	
(*b*) School Medical Officers,		39	
(*c*) Port Local Authority,		1	
(*d*) County Medical Officer,		24	
(*e*) From death cards only,		69	
			140
3. *From Military Authorities*,			67
Total cases registered,			2,240

Tuberculosis Dispensaries.—The following table gives the hours of meeting of the various dispensaries throughout the City:—

Dispensary	Evening, at 6 p.m. Males and Females	Males	Females
Brown Street	Monday	Monday, 10 a.m. Wednesday, 10 a.m. Thursday, 10 a.m.	Tuesday, 1.30 p.m. Friday, 10 a.m.
Adelphi Street	Wednesday	Wednesday, 10 a.m. Tuesday, 10 a.m.	Monday, 1.30 p.m. Friday, 10 a.m.
Black Street	Tuesday	Monday, 1.30 p.m. Tuesday, 10 a.m.	Thursday, 1.30 p.m. Friday, 1.30 p.m.
Granville Street	Tuesday	Tuesday, 10 a.m.	Monday, 1.30 p.m.
Elmbank Crescent	——	Wednesday, 1.30 p.m. (*Partick*)	Friday, 10 a.m. (*Anderston*)
Govan	Thursday	Monday, 1.30 p.m.	Tuesday, 1.30 p.m. Friday, 10 a.m. (Children)
Elmbank Crescent	——	Thursday, 10 a.m. (Males and Females) (*Central District*)	——

Deaths among Registered Cases.—In cases where the first information regarding the occurrence of the disease was obtained from the death registers inquiry was made at the medical practitioner certifying the death regarding the omission to notify, and the explanation given in the majority of cases was that the doctor certifying the death had only seen the patient a day or two before death, and had reason to believe that notification had already been made by some other party. The omissions to notify during 1910 numbered 189, but fell to 80 during 1911, and to 35 during 1912. In 1913 they numbered 44, and 69 in 1920, which is a little over 3 per cent. of the total deaths occurring in the latter year.

Place of Residence at Time of Registration.—When a patient is notified from a home address this is visited, and if the case can be definitely located the patient is regarded as a "home" case, even although at the time of notification he is under treatment in an institution. The results of these inquiries may be summarised as follows:—

Cases traced to home addresses, ...	2,043
Cases at home but not visited at request of medical attendant, ...	64
Cases where only known address was an institution, ...	115
Cases not found at address given, ...	18
	2,240

Private and Public Notifications.—The figures given in the foregoing summary refer to the total number of cases registered during the year, while the following table refers only to notifications under the Act received regarding the 2,033 cases so notified:—

Notifications	Private	Public	Total	Percentage Public
Primary, ...	1,211	822	2,033	40·4
Multiple, ...	310	259	569	45·5
	1,521	1,081	2,602	41·5
Percentage multiple to primary notifications in each group, ...	25·6	31·5	28·0	

Age Distribution of Cases Registered.—This information is given for each of the three years ending 1920, in the following table:—

	1918		1919		1920	
Age	M.	F.	M.	F.	M.	F.
– 5 years, -	57	43	36	25	54	31
– 10 ,, -	69	77	62	70	55	63
– 15 ,, -	70	102	72	83	59	80
– 20 ,, -	137	127	82	91	103	110
– 25 ,, -	171	116	137	128	186	120
– 35 ,, -	395	235	290	217	354	199
– 45 ,, -	298	151	252	142	260	158
– 55 ,, -	216	87	171	88	187	78
– 65 ,, -	87	35	74	30	76	37
Over 65 years,	30	10	34	15	18	12
Total, -	1,530	983	1,210	889	1,352	888
Grand Total,	2,513		2,099		2,240	

Housing Accommodation of Patients.—The following table gives the house accommodation at the date of registration of such patients as had home addresses. Patients who were in institutions (mostly Poor Law) at the time of notification are included along with those who could not be traced at the addresses given:—

	1918		1919		1920	
	M.	F.	M.	F.	M.	F.
1 Apartment, ...	203	187	197	163	226	181
2 ,, ...	621	519	562	462	660	464
3 ,, ...	233	133	180	142	200	135
4 ,, and up, ...	136	59	89	73	119	75
In Institutions and not traced, ...	337	85	182	49	153	27
Total, ...	1,530	983	1,210	889	1,358	882
Grand Total, ...	2,513		2,099		2,240	

Institutional Treatment.—The following table shows admissions to institutions of patients suffering from pulmonary tuberculosis during the years 1914-1920:—

Year	Local Authority Hospitals	Sanatoria	Poor Law Institutions	Total
1914, ...	645	370	675	1,690
1915, ...	1,250	562	880	2,692
1916, ...	1,233	667	892	2,792
1917, ...	1,144	616	809	2,569
1918, ...	986	561	671	2,218
1919, ...	948	501	609	2,058
1920, ...	1,731	739	630	3,100
	7.937	4,016	5,166	17,119

Dispensary Attendances.—The following shows in tabular form the attendances and consultations at the various tuberculosis dispensaries in each year, 1918 to 1920; all forms of tuberculosis are included:—

Dispensary	Number of Consultations	Primary Attendance		Subsequent Attendances	
		Males	Females	Males	Females
1918, ...	1,087	3,094		78,226	
1919, ...	1,173	2,554		60,432	
1920.					
Brown Street, ...	306	114	153	7.180	5.363
Black Street, ...	258	229	266	6,158	5.950
Elmbank Crescent, ...	123	136	101	2.479	2,041
Granville Street, ...	180	257	202	4,681	2,951
Adelphi Street, ...	218	201	192	4,524	3,127
Govan, ...	154	157	153	3.982	2,882
Total, ...	1,239	1,094	1,067	29,004	22.314
		2,161		51,318	

Home Visitation by Nurses.—The work of the department on its domiciliary side has greatly increased, the number of home visits by nurses having been as follows during the past three years:—

NUMBER OF VISITS MADE.

1918	1919	1920
52,352	56,266	55,778

Issue of Medical Extras, Beds and Bedding, &c., to Patients under Treatment at Home.—In 1916 the Local Authority was granted power to provide assistance in the domiciliary treatment of patients in the form of given. Extra nourishment takes the form of two pints of milk and one egg per day:—

Year	Medical Extras	Bed and Bedding
1916, ...	100	61
1917, ...	180	30
1918, ...	202	40
1919, ...	153	45
1920, ...	187	24

Issues of this nature are only granted after full inquiry and in cases where the home circumstances are reasonably satisfactory. They are not regarded in any sense as a measure of out-relief, which is always readily granted by the Poor Law Authorities when required.

Issue of Clothing to Patients.—In 1916 the National Association for the Prevention of Consumption agreed to make the interest on the purchase price of Bellefield Sanatorium the basis of a fund out of which to provide clothing for patients going to sanatoria. This amounts to about £400 per annum, and has enabled the Tuberculosis Department to meet a very real want, as many patients are poorly clad and unable to make the journey to sanatoria, especially in winter. In 1916 148 patients, in 1917 138 patients, in 1918 161 patients, in 1919 225 patients, and in 1920 119 patients were provided with various articles of clothing in accordance with the above scheme. During 1917 and 1918 a considerable expenditure was incurred in clothing discharged disabled ex-service men. Since then, however, the Ministry of Pensions have adopted a scheme whereby a pensioner may be advanced a sum not exceeding £5 towards providing himself with any outfit required before proceeding to an institution for treatment.

NON-PULMONARY TUBERCULOSIS.

Tuberculosis in all its forms became compulsorily notifiable on 1st July, 1914. The subjoined table gives the number of cases of non-pulmonary tuberculosis registered during subsequent years:—

Year	Cases Registered	Year	Cases Registered
1914.	1,142	1918, ...	1,412
1915, ...	1,464	1919, ...	1,207
1916, ...	1,502	1920, ...	1,185
1917, ...	1,493		

The following tables show (1) the distribution of the cases registered in each year in accordance with the location of the disease and sex of the patient; and (2) distribution according to certain age periods in each year:—

TABLE SHOWING NON-PULMONARY TUBERCULOSIS CASES REGISTERED DURING 1914-1920, WITH LOCATION OF DISEASE AND SEX.

Year	Glands		Bones & Joints		Abdomen		Meninges		Multiple		Other		T
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
1914,* ...	159	153	239	186	79	45	73	47	11	18	70	62	631
1915, ...	176	232	192	156	135	104	137	123	52	27	71	59	763
1916, ...	199	216	185	138	155	136	136	140	40	18	75	64	790
1917, ...	203	266	196	170	155	113	93	95	41	34	70	57	758
1918, ...	186	265	158	143	119	128	92	107	34	30	78	72	667
1919, ..	138	178	164	127	126	123	93	86	40	29	56	47	617
1920, ...	138	145	193	168	116	112	89	83	39	29	44	29	619
Total,... ...	1,199	1,455	1,327	1,088	885	761	713	681	257	185	464	390	4,845
Grand Total,...	2,654		2,415		1,646		1,394		442		854		9,

* Figures for six months ending 31st December, 1914.

Age Distribution of Non-Pulmonary Tuberculosis Cases registered during each year. since commencement of Notification on July 1st, 1914.

Year	Under 1 year		1-5 years		5-10 years		10-15 years		Over 15 years		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1914, ...	60	21	132	90	140	102	134	115	165	183	631	511
1915, ...	59	49	236	161	164	140	112	108	192	243	763	701
1916, ...	64	45	244	152	149	123	108	164	224	228	789	712
1917, ...	52	48	190	134	157	156	117	149	243	248	759	735
1918, ...	30	33	163	169	137	125	129	142	208	276	667	745
1919, ...	45	28	151	109	142	123	78	136	201	194	617	590
1920, ...	57	35	143	122	128	137	110	94	181	178	619	566
Total, ...	367	259	1,259	937	1,017	906	788	908	1,414	1,550	4.845	4,560
Grand Total, ...	626		2,196		1,923		1,696		2,964		9,405	

The following table shows admission to institutions of patients suffering from non-pulmonary tuberculosis during the years 1915-1920:—

Year	Local Authority Hospitals	Sanatoria	Poor Law Institutions	Total
1915, ...	10	7	—	17
1916, ...	26	16	87	129
1917, ...	76	35	187	298
1918, ...	150	69	171	390
1919, ...	264	88	186	538
1920, ...	566	68	136	770
	1,092	283	767	2,142

As the table shows, an increased number of patients with non-pulmonary or surgical tuberculosis was treated during 1920, but the accommodation available is still short of the numbers requiring treatment, who are now dealt with by general hospitals and Poor Law institutions. The position will be improved when smallpox ceases to be treated at Robroyston Hospital.

INSTITUTIONAL ACCOMMODATION.

Appendix Table XX shows the number of beds available in sanatoria and hospitals for the treatment of tuberculosis. From July, 1920, till April, 1921, smallpox was being treated in Robroyston Hospital, but during this period cases of tuberculosis were temporarily treated in army huts at Stobhill. With the cessation of smallpox, tuberculosis cases are again being treated at Robroyston.

The need for additional institutional accommodation is discussed in the following memorandum, which was submitted to the committee, who afterwards approached the Board of Health on the question of the erection of a sanatorium at Southfield Estate:—

SOUTHFIELD SANATORIUM.

The Committee on Health of the Corporation of Glasgow view with the greatest apprehension the suggestion conveyed to them by the Board of Health that the Treasury is unlikely to approve of the erection of the sanatorium at Southfield at the present time.

Since the Corporation acquired the estate in 1913 the provision which Southfield would afford for children on the one hand and for one section of adults on the other has been regarded as a vital element in any complete scheme for the City.

So long ago now as 1913 the preparation of plans was undertaken, and they were ultimately submitted to the Board in 1914. Their consideration and approval was interrupted by the war. In the interval they have been entirely recast to meet, among other things, the extended responsibility for surgical tuberculosis which has been placed on Local Authorities by Order of the Board.

The urgency of the need becomes greater indeed because of the widespread anticipation among Medical Officers of Health that the next ten years will see a considerable development of smallpox prevalence, so that much smallpox accommodation which meanwhile is devoted to tuberculosis purposes will either cease to be available therefor or be occupied by tubercle under an uncertain tenure.

In Glasgow, as in every other large City, the need for adequate provision for the treatment of tuberculosis is urgent. The Glasgow conditions are probably more acute than in other cities because of its building custom and its intense density. Per acre in Glasgow there are 58 persons, as contrasted with 37 in Liverpool, 38 in Manchester, and 21 in Birmingham. Moreover, its standard of housing is dominated by the tenement system, and an excessive proportion of its houses are of one and two apartments. Thirteen per cent. of its population is housed in single apartments; 49 per cent. in houses of two apartments. These conditions affect 675,000 persons. (See also Table II.)

In view of this the actual condition which results when tuberculosis (and especially pulmonary tuberculosis) occurs in any member of a family so situated scarcely needs illustration. A few figures here will help to visualise the condition. On 19th February current 11,107 cases of tuberculosis were on the register. 6,658 of these were pulmonary, of whom 922 were in hospital or sanatoria. Of the non-pulmonary forms (4,449) 287 were so accommodated, so that already the provision of tuberculosis beds is about 11 per 10,000 of the population.

Considerable as this is, its inadequacy is well illustrated by the home conditions of those who have been discharged from hospital or sanatorium, or are awaiting admission. We may confine the illustration to the pulmonary forms of the disease. These, as has been said, number 6,658, of whom 922 are in hospital. Of the remainder, 5,736, only 1,259 occupy separate rooms for sleeping purposes, while 4,477 occupy the same room as other members of the family. With these 5,736 patients are housed 22,465 other members of their families. 13,594 sleep in other rooms, but 3,626 sleep in the patient's room, while 5,245 sleep in the same bed as the patient. For practical purposes these last two groups may be considered together, for in the stagnant air of most sleeping rooms the risks of infection are but little minimised during explosive coughing by occupying a separate bed. We have thus 8,871 persons exposed to direct aerial infection during the hours of sleep —sufficient reason for the apprehension with which the committee view the existing conditions. Something may be added on the general position :—

(1) *The Southfield Scheme.*—It is proposed to erect on this estate :—

- (*a*) A sanatorium of 160 beds for male patients, with facilities for vocational training;
- (*b*) a hospital for the treatment of children suffering from surgical tuberculosis, on the most modern lines, to accommodate in the first instance 160 children, capable of later extension to 300 beds.

This proposal is not a new one. Plans were first submitted to the Local Government Board in July, 1914, and approved of in January, 1915, but building operations were postponed on account of the war. On the conclusion of the war the proposal was again revived, and the proposal to erect a male sanatorium and children's hospital took its final form at the end of 1919, since when new sites for these institutions have been selected on the estate, and the plans revised and made as economical as possible compatible with efficiency. These plans are now before the Board of Health, and await their final approval.

(2) *Need for a Male Sanatorium.*—The Corporation possesses no male sanatorium of its own. The sanatorium at Ochil Hills (103 beds) was leased by the City during the war in order to tide over the period until the completion of that at Southfield. Its purchase by another Local Authority (just completed) will deprive the City of some sanatorium beds which would otherwise have been available. As the position now stands the Corporation is entirely dependent upon charitable and other institutions for its male sanatorium accommodation. From the attached statement it will be noted that at the end of last year there were 151 male patients in sanatoria, and that the waiting list numbered 56, both of which are fair averages, though in summer the latter is much increased. Although the County Council of Stirlingshire, which has recently purchased Ochil Hills Sanatorium, has indicated its willingness to accept patients up to 50 beds from Glasgow for a period, sanatorium accommodation will be further restricted in the near future.

The number of beds available will, therefore, be reduced to about 100, and the waiting list correspondingly increased to over 100. The necessity for substitutionary sanatorium accommodation is thus apparent, and the number of beds proposed to be erected at Southfield has been estimated at 160—a minimum figure, considering the needs of the City. Further, the important element in a sanatorium scheme, vocational training, is not provided for anywhere at present. This forms one of the reasons why the institution at Southfield is so urgently required.

(3) *Need of Hospital Provision for Surgical Tuberculosis.*—The available accommodation for this type of tuberculosis is extremely limited in Glasgow, and more ample provision is on all hands regarded as urgent. The Local Authority have endeavoured, in spite of the claims of pulmonary tuberculosis, to set aside a certain number of beds for the treatment of this class of case, whose claims, having

regard to the insufficient and unsatisfactory nature of the treatment available in general hospitals and to the adverse conditions under which the majority of these patients are housed, are clamant. In the various hospitals of the Local Authority and in the Poor Law hospitals there are at present about 300 non-pulmonary cases of tuberculosis, the majority of whom are children. Patients with tuberculous disease of bones, joints, &c., require prolonged conservation treatment in the open air. The general hospitals deal with a comparatively small proportion of these patients, and that quite inadequately, the period of residence being too short. The following data show the relative admissions to general hospitals for tuberculosis other than pulmonary to the total admissions :—

	Percentage Admission for Tuberculosis to Total Admissions	No. of Cases Admitted during 1 year	Average Duration of Treatment
			Days
Royal Infirmary, ...	5·5 per cent.	273	35·08
Western Infirmary, ...	4·3 ,,	188	37·50
Sick Children's Hospital,	12·0 ,,	295	24·10

General hospitals, therefore, do not treat to any adequate extent such types of tuberculosis as require prolonged treatment. These cases cannot be satisfactorily treated at home, and while waiting for admission the disease advances, often to the point of permanent crippling. Some idea of the inadequacy of the accommodation for this important class of tuberculous patient may be gathered from the figures showing the condition of those who were under observation at home and being visited by the tuberculosis staff at the beginning of this year :—

Non-Pulmonary Tuberculosis Localisation of Disease	Cases at Home in January, 1921 Number of Cases
Bones and Joints, ...	885
Glands, ...	1,265
Abdominal, ...	542
General, ...	626
Total, ...	3,318

Number of these patients confined to bed, ... 74

,, ,, requiring dressings, ... 367

When this census was taken a rough estimate was made of the numbers requiring institutional treatment, which may be put at the conservative figure of about 700-800, or approximately 20 per cent.

The position as regards non-pulmonary tuberculosis has been stated at some length, in order to demonstrate the urgency of the problem and in explanation of the desire of the Local Authority to add to its provision for the treatment of this type of case by the establishment of a country hospital at Southfield.

(4) *Female Sanatorium.*—The existing accommodation at Bellefield (52 beds) is being extended in the first instance to 102 beds, with provision for future extension to 132 beds. This provision will be sufficient for female patients, adults, and children.

SUMMARY OF HOSPITAL ACCOMMODATION.

The actual number of beds available may be expressed as follows on paper :—

	Present Accommodation	Prospective Accommodation
Ruchill, ...	272	272
Knightswood, ...	70	320
Shieldhall, ...	24	24
Darnley, ...	18	18
Robroyston, ...	448	448
	832	1,082

It should be noted, however, that the use of all or any portion of Knightswood for tuberculosis will depend on the prevalence of other infectious diseases. The need for extra accommodation for fevers, &c., is being more and more felt. As it is, during the present winter, when the incidence of infectious disease has been normal, and no special outbreak has occurred, the accommodation in the existing hospitals has been taxed to the utmost.

The hospital at Robroyston is primarily a smallpox hospital, and is only available for tuberculosis during the absence of smallpox. Since July of last year, during the smallpox outbreak, its use for tuberculosis has had to be abandoned in favour of smallpox. The Corporation are now considering the question of providing auxiliary accommodation for smallpox, which will enable Robroyston to be recovered for tuberculosis. Alternative accommodation for tuberculosis has been provided by the Poor Law Authorities in their Hospital at Stobhill (282 beds), but provision of sufficient accommodation for smallpox during inter-epidemic periods would greatly assist in solving the tuberculosis problem, although it will not remove the necessity for prosecuting the Southfield scheme.

In connection with the attached statement of accommodation it should be explained that the numbers shown as on the waiting list for admission to hospital represent only those for whom accommodation is urgently required because of advanced disease or very unsuitable home conditions.

In conclusion, the Corporation bases its claim for consideration in favour of immediate prosecution of its scheme to provide additional institutional accommodation on the following grounds:—

(1) Grave shortage of sanatorium beds for male patients and an absence of facilities for vocational training. The Local Authority possesses no sanatorium of its own; serious delay in obtaining admission for suitable cases occurs, and the needs of the discharged soldiers cannot adequately be met under existing conditions.

(2) The adverse housing conditions under which the majority of the patients live, which renders necessary ample provision for institutional treatment, on the grounds both of prevention and of treatment.

(3) The claims of patients suffering from non-pulmonary forms of tuberculosis are very inadequately met at present.

(4) The available existing and future provision for the treatment of hospital cases—both pulmonary and non-pulmonary—is to a large extent contingent on the prevalence of other infectious diseases.

(5) The Southfield scheme for which approval is specially desired is designed to meet to some extent the most outstanding needs of the population.*

Public Health Office,
Glasgow, 25th February, 1921.

TUBERCULOSIS.—Position at 31st December, 1920.

	Males	Females	Total
Cases under observation—			
Pulmonary, ...	3,860	2,739	6,599
Other forms, ...	2,241	2,243	4,484
Total, ...	6,101	4,982	11,083

	Phthisis		Non-Pulmonary Tuberculosis		
	Males	Females	Males	Females	Total
Hospitals—					
Ruchill, ...	112	77	26	24	239
Shieldhall, ...	23	...	...	...	23
Knightswood, ...	73	...	3	...	76
Darnley, ...	5	8	...	...	13
Lanfine, ...	15	10	...	...	25
Strathblane, ...	...	...	4	6	10
Stobhill, ...	55	64	66	70	255
Alton, ...	...	...	3	3	6
Total, ...	283	159	102	103	647
Sanatoria—					
Bellefield, ...	...	37	...	5	42
Bridge-of-Weir, ...	32	45	1	5	83
Doune Road Hospital, Dunblane, ...	8	4	...	...	12
Ochil Hills, ...	96	...	5	...	101
Polton Farm, ...	4	...	...	...	4
Hairmyres Farm, ...	10	...	...	...	10
Papworth Hall, ...	1	...	...	...	1
Total, ...	151	86	6	10	253

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* Subsequently the Board of Health intimated that the Treasury had sanctioned the provision of 300 beds at Southfield.

TUBERCULOSIS.—Position at 31st December, 1920 (*Continued*).

	Phthisis		Non-Pulmonary Tuberculosis		
	Males	Females	Males	Females	Total
Poor Law Institutions—					
Stobhill, ...	27	17	16	10	70
Barnhill, ...	55	14	2	7	78
E. D. H., ...	22	8	5	5	40
Stoneyettes, ...	...	...	...	...	...
Maybole, ...	...	...	...	...	...
Dunclutha, ...	5	...	4	...	9
Merryflats, ...	32	16	4	4	56
Shandon, ...	1	1	...	...	2
East Kilbride, ...	...	...	...	...	..
Rothesay, ...	3	1	4	...	8
Oakbank, ...	4	6	1	8	19
Total, ...	149	63	36	34	282

	Insured	Not Insured	Dependants	Total
Number receiving Medical Extras (Domiciliary Treatment)—				
Males, ...	80	3	3	86
Females, ...	26	9	22	57
Total, ...	106	12	25	143

	Males	Females	Total
Waiting List (Sanatoria)—			
Over 15 years, ...	55	12	67
Under 15 years, ...	1	3	4
Under 8 years, ...	...	...	...
Total, ...	56	15	71

	Males	Females	Total
Waiting List (Hospital)—			
Over 15 years, ...	72	15	87
Under 15 years, ...	7	2	9
Under 8 years, ...	1	1	2
Total, ...	80	18	98

PULMONARY TUBERCULOSIS.—Cases at Home, in Hospital, and Sanatoria on 31st December, 1920.

	Insured		Dependent of Insured		Not Insured		Deposit Contributors		Not Known		Total		Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Home Cases.													
1 apartment, ...	331	105	121	350	11	25	1	1	...	...	464	481	945
2 do., ...	1,171	329	479	971	53	49	3	4	1	...	1,707	1,353	3,060
3 do., ...	445	131	72	206	48	31	2	1	...	...	567	369	936
4 do. and up,	239	68	16	74	79	30	1	1	...	...	335	173	508
Common Lodging-houses, ...	118	16	4	19	52	18	...	...	30	2	204	55	259
Total, ...	2,304	649	692	1,620	243	153	7	7	31	2	3,277	2,431	5,708
Poor-law Hospitals,	68	10	23	40	57	9	...	...	1	4	149	63	212
Local Authority Hospitals, ...	214	59	48	89	21	10	...	1	...	...	283	159	442
Sanatoria, including Lanfine Home,	128	34	18	49	5	3	...	...	...	...	151	86	237
Grand Total, ...	2,714	752	781	1,798	326	175	7	8	32	6	3,860	2,739	6,599

Summary Statement of Tuberculosis Cases and Contacts as at 19th February, 1921, arranged according to size of Houses.

	Patients			Contacts			
	Pulmonary	Non-Pulmonary	Total	Pulmonary	Non-Pulmonary	Total	Total Occupants
1 apartment,	1,034	650	1,684	2,753	2,029	4,782	6,466
2 ,,	3,252	2,623	5,875	12,618	13,074	25,692	31,567
3 ,,	927	666	1,593	4,587	3,718	8,305	9,898
4 ,,	523	223	746	2,507	1,220	3,727	4,473
	5,736	4,162	9,898	22,465	20,041	42,506	52,404

Abstract.

	Patients	Contacts	Inmates
"At Home" Cases, ...	9,898	42,506	52,404
"Institutional" Cases, ...	1,209	5,198	6,307
Total, ...	11,107	47.704	58,711

Summary Statement of Tuberculosis Cases and Contacts as at 19th February, 1921, showing Sleeping Accommodation.

	Pulmonary	Non-Pulmonary	Total
Patients—			
Occupying separate room, ...	1,259	422	1,681
Occupying room with other members of family, ...	4,477	3,740	8,217
Total patients at home, ...	5,736	4,162	9,898
Patients in Hospital at 19th Feb., 1921,	922	287	1,209
Total Patients at 19th February, 1921, ...	6,658	4,449	11,107
Contacts with above Home-Patients—			
Occupying same bed as patient, ...	5,245	4,996	10,241
Occuping same room, but separate bed from patient, ...	3,626	3,829	7,455
Inmates of other rooms, ...	13,594	11.216	24,810
Total Contacts, ...	22,465	20,041	42,506

Note.—Those 42,506 persons are contacts with 9,898 cases at home on 19th February, 1921, *i.e.*, 4·3 contacts per patient. An additional 5,198 persons have been in contact with the 1,209 patients at the moment in institutions.

OTHER RESPIRATORY DISEASES.

The deaths and death-rates from respiratory diseases—including croup, but excluding pneumonia—during the years 1918-1920 are as follows:—

Year	Deaths	Death-rate per million
1918, ...	1,312	1,178
1919, ...	1,506	1,351
1920, ...	1,346	1,207

Pneumonia.—The Infectious Disease Regulations issued by the Board of Health in 1919 included acute primary pneumonia and acute influenzal pneumonia as notifiable diseases. In the former group 4,030 cases were recorded, and in the latter 500. Both forms were prevalent simultaneously during the spring and early summer, when influenza was also prevalent, but there was no exceptional mortality similar to that of the epidemic periods of 1919-1920.

The deaths and death-rates from pneumonia and influenza have been as follows:—

	Pneumonia		Influenza	
Year	Deaths	Death-rate per million	Deaths	Death-rate per million
1918, ...	2,275	2,046	2,015	1,812
1919, ...	2,137	1,918	1,761	1,580
1920, ...	1,949	1,748	313	281

SECTION VI.

VENEREAL DISEASES.

During the year some improvement has been effected in the facilities for treatment under the scheme. At the Royal Infirmary, where outdoor dispensary meetings were formerly held on three afternoons per week, two additional afternoon diets were opened on 1st April for the treatment of patients already on the books. Negotiations between the Directors of the Lock Hospital and the Central Dispensary were completed, and the outdoor work of the hospital was transferred on 15th October to the Dispensary, where also sleeping accommodation has been provided for part of the nursing staff. The improved accommodation and the severance in situation and name of the out-patient clinic from the Lock Hospital will afford an opportunity for further development of this Centre.

Closure of the wards for children at Baird Street Reception House, which was mentioned in the previous Report, remained in force throughout the year, and the out-patient clinic for women and children associated with that institution has been carried on at Black Street Dispensary. It is desirable that the more suitable accommodation at the latter dispensary should continue to be used for out-patients. Cessation of the smallpox epidemic will permit of the wards at Baird Street being reopened at an early date.

Negotiations with the Managers of the Royal Hospital for Sick Children were completed during the year, and out-patient clinics were opened on 1st November at the Dispensary, West Graham Street, meeting on Mondays and Thursdays at 3 p.m. When necessary, children are admitted to the hospital at Yorkhill on the recommendation of the Clinical Officers of the out-patient department.

The discussions with the Managers of the Glasgow Eye Infirmary mentioned in the previous Report resulted in an agreement on 20th January, 1921, whereby evening clinics for the treatment of patients suffering from venereal diseases affecting the eye (save ophthalmia neonatorum) would be opened at the Dispensary, Charlotte Street, and bed accommodation would be provided when required at the Hospital, Berkeley Street. Work commenced on 17th January, 1921.

The extension of Bellahouston Dispensary to provide accommodation for venereal disease was delayed for some time on account of structural difficulties, but is now proceeding.

Evening Clinics.

Efforts to obtain evening sessions at the several centres continued during the year. With transfer of the out-patient department of the Lock Hospital to the Central Dispensary, one evening clinic per week on Thursdays was commenced. It has proved of great benefit to employed women. From the commencement till 17th March, 1921, the average number of attendances at each evening session was 28, and the number has now grown to about 40. A second evening clinic is under consideration.

Evening clinics (for males on Tuesdays and for females on Thursdays) have been opened at the Western Infirmary for an experimental period, the result of which will be recorded in a subsequent Report. An experiment with the treatment of gonorrhœa in females is also being made, but so far arrangements have not been made for treating male cases of that disease.

Two evening clinics per week have continued to be held at Broomielaw with great success, and, as already mentioned, the out-patient work of the Eye Infirmary is done in the evenings.

At the Royal Infirmary, however, where the need is greatest, the Managers have found it impossible to provide evening sessions, and if the obstacles are found insuperable it will be necessary to open evening clinics at Black Street Dispensary, under the direct administration of this department, so as to provide for patients attending the Royal Infirmary who are unable to come during the day.

ACCOMMODATION FOR IN-PATIENTS.

The deficiency of accommodation for in-patients—there are only fifteen beds for males at the Royal Infirmary—continues to hamper the efficiency of the scheme. The need is greatest for seafaring men who are unfit for work and have no fixed place of residence in the City. The general hospitals are unable to provide more beds for venereal disease, and the Corporation hospitals are fully taxed. In these circumstances the Parish Council of Govan has been invited to provide beds at Merryflatts Hospital at the cost of the Corporation. They have expressed their inability to do so, but have again been approached through the Scottish Board of Health.

WORK OF THE CENTRES.

The following is a summary of returns made by the several centres, showing the work done during the year 1920:—

GLASGOW—VENEREAL DISEASE SCHEME.

PATIENTS TREATED AT THE SEVERAL CENTRES DURING THE YEAR 1920.

IN-PATIENTS.	Royal Infirmary	Western Infirmary	Victoria Infirmary	Lock Hospital	Broomielaw	Baird Street Reception House	Sick Children's Hospital (two months)	Total
New Cases suffering from—								
Syphilis, ...	98	43	17	102	—	15	2	277
Soft Chancre, ...	14	—	—	—	—	—	--	14
Gonorrhœa, ...	91	8	—	140	—	16	—	255
Syphilis and Soft Chancre, ...	2	—	—	—	—	—	—	2
Syphilis and Gonorrhœa, ...	11	—	—	227	—	—	—	238
Gonorrhoea and Soft Chancre, ...	1	—	—	—	—	—	—	1
Syphilis, Gonorrhœa, and Soft Chancre, ...	—	—	—	12	—	—	—	12
Conditions other than Venereal.	15	--	—	12	—	—	—	27
Total, ...	232	51	17	493	—	31	2	826
Aggregate Days' Residence, ...	5,159	2,955	602	20,486	—	1,764	60	31,026
OUT-PATIENTS.								
New Cases suffering from—								
Syphilis, ...	1,090	351	75	418	180	76	47	2,237
Soft Chancre, ...	242	29	—	—	8	—	—	279
Gonorrhœa, ...	1,528	15	—	413	217	13	—	2,186
Syphilis and Soft Chancre, ...	—	—	—	—	—	—	—	—
Syphilis and Gonorrhœa, ...	74	1	—	500	18	3	—	596
Gonorrhœa and Soft Chancre, ...	43	—	—	1	1	—	—	45
Syphilis, Soft Chancre and Gonorrhœa, ...	—	—	—	16	1	—	—	17
Conditions other than Venereal,	231	41	—	105	2	—	—	379
Total, ...	3,208	437	75	1,453	427	92	47	5,739
Aggregate Attendances, ...	43,288	4,773	903	20,577	9,273	534	85	79,433
PATHOLOGICAL EXAMINATIONS.								
Wassermann Reactions, ...	2,265	974	470	1,226*	244*	72*	47*	5,298
Spirochætes, ...	114	30	42	195	113†	1*	—	495
Gonococci, ...	108	23	31	3,057	414	138*	—	3,771
Total, ...	2,487	1,027	543	4,478	771	211	47	9,564

* At Public Health Laboratory.

† 100 at Public Health Laboratory.

Altogether 6,565 new cases attended at the various centres during the year, as against 5,724 in 1919—an increase of 14·7 per cent. The increase should not be interpreted as necessarily indicating greater prevalence of venereal diseases. Partly it is due, in the case of in-patients, to the Board's decision to approve, for grant under the scheme, of the treatment of non-communicable cases as from 15th May, 1920. Types of cases were therefore recorded during the latter half of 1920 which were treated formerly but not charged against the scheme nor recorded in the returns.

But even among the outpatients there has been an increase from 4,976 to 5,739, or 13.3 per cent., which is probably due to wider knowledge among the community of the facilities offered. The greatest increase has occurred at the Lock Hospital, where the outpatients have increased in number from 834 to 1,453. On the other hand, the numbers at the Royal Infirmary have fallen from 3,325 to 3,208. The decline at the Royal Infirmary is surprising, in view of the reputation of this centre, and the fact that cases of gonorrhœa are principally affected suggests that the limited accommodation provided for their treatment may be the cause. It may be, however, that Broomielaw Dispensary has attracted a number of patients who would otherwise have attended at the Royal Infirmary.

It should be noted that, while the number of outpatients suffering from gonorrhœa at all the centres has increased only by 11, syphilis has increased by 432 (from 1,805 to 2,237). If the number of out-patients in whom syphilis occurred, either alone or with some other form of venereal disease (2,850), is compared with the similar figure for gonorrhœa (2,844), the surprising fact emerges that rather more cases of syphilis than of gonorrhœa came for treatment during the year. It is generally believed that gonorrhœa is more prevalent that syphilis, and it is probable that the low proportion of cases of gonorrhœa is due to defective provision for its treatment.

The most gratifying feature of the year's record is the improvement in the proportion of attendances to new cases treated outdoor. In 1919, 4,976 out-patients made 50,452* attendances, or an average of ten attendances per patient. In 1920 the corresponding average was fourteen, which represents a distinct gain in the efficiency of the scheme. The improvement has occurred in each centre save the Lock Hospital, where there is a slight relative falling off in the attendances. This question of attendance, which is of fundamental importance in measuring the success of the scheme, will be considered at greater length in connection with the dispensary at Broomielaw.

TREATMENT OF PATIENTS FROM AREAS OUTWITH GLASGOW.

The Venereal Diseases Scheme provides for the treatment of all patients who apply, irrespective of domicile. As will be shown later, many extra-mural patients avail themselves of the facilities existing in Glasgow, and the financial questions arising in this connection are complicated not only by the variety of Local Authorities affected and the completeness or otherwise of the provision they make for venereal diseases, but also by the impossibility of verifying the addresses of patients, while preserving a confidential relationship between the Medical Officers of the centres and the patients.

Apart from such complications it is important to record the work done for outside areas, and to arrive at some estimate of their value from the medical standpoint. The following summary of returns for the year ending

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* Through a misunderstanding at the Royal Infirmary, the returns of attendances for that institution in 1919, did not contain first attendances, and the figures in the Report for that year require to be corrected, by adding the number of new cases at the Royal Infirmary to the aggregate attendances.

31st May, 1920, showing the work done for areas outwith Glasgow, is interesting in this connection:—

VENEREAL DISEASE.—Residence of Patients treated in Glasgow during 12 Months ended 31st May, 1920.

	In-Patients		Out-Patients	
Residence	New cases	Day's residence	New cases	Attendances
Glasgow, ...	587	23,486	4,892	57,754
Counties adjacent to Glasgow, ...	118	3,488	675	7,523
Counties at convenient travelling distance, ...	29	1,076	69	331
Distant Counties, ...	12	604	44	217
All areas outwith City, ...	159	5,168	788	8,071
Total, ...	746	28,654	5,680	65,825

During this period 21·3 per cent. of the new in-patients and 13·9 per cent. of the new out-patients, or together 14·7 per cent. of all cases coming under observation for the first time, gave addresses outwith Glasgow. The higher proportion of in-patients is due to the necessity of treating indoor a certain proportion of extra-mural cases whose disease is suitable for outdoor treatment, but who live at a distance too great for regular attendance. The obligation to treat patients from areas outwith the city therefore entails provision for a higher proportion of in-patients than would be necessary if only the citizens were served by the scheme.

Naturally, by far the greatest number (793) of the extra-mural cases came from counties adjacent to Glasgow—viz., Lanarkshire, Renfrewshire, Dunbartonshire, and Stirlingshire—whereas only 154 resided in areas beyond these counties.

The usefulness of treating extra-mural cases outdoor may be measured by the proportion of attendances to new cases. During this period an average of 11·8 attendances per new patient was made by Glasgow cases, whereas the proportion for extra-mural cases was 10·3, varying from 11·1 for adjacent counties to 4·8 for counties at convenient travelling distance and 4·9 for distant counties. It therefore appears that patients who come for treatment from the neighbouring counties take equal advantage of the provision with Glasgow patients, but that other extra-mural cases put in so small a number of attendances, on the average, that it is scarcely worth their while coming to the centres at all.

On the whole, the conclusion may be drawn that the facilities for outdoor treatment provided in Glasgow under the Venereal Diseases Scheme are of real value to the adjacent authorities, but of little use to those more distant, among which are included several whose sole provision for these diseases is an agreement to defray the cost of their treatment in Glasgow. On the other hand, the greater need of indoor treatment for patients living at a distance makes the question of bed accommodation even more urgent than it is for Glasgow patients.

In the meantime no comparable information is available as to the work done for Glasgow patients at centres conducted by other Scottish Local Authorities. The Scottish Board of Health, however, has under consideration a form of annual return which will contain similar information from all Local Authorities. When returns on this form are available it will be possible to ascertain to what extent reciprocity is occurring.

Report on the Work of the Public Health Dispensary, Broomielaw.

This centre, as mentioned in the last Annual Report, was opened on 27th September, 1919, primarily to meet the needs of the seafaring population. So far as out-patient treatment is concerned it is serving this purpose well, but experience has shown that bed accommodation for seamen, to which they can be admitted through the dispensary, is an adjunct urgently required. The centre, however, has proved to be of service also to the resident male population both in the neighbourhood and generally throughout the City.

Some idea of the work of the centre will be gathered from the following statement:—

	Attendances of Patients			
Three Months ending—	For the First time	Subsequently at Medical Consultations	For Routine Treatment by Attendant	Aggregate
31st December, 1919, ...	100	268	1,198	1,566
31st March, 1920, ...	95	510	1,538	2,143
30th June, 1920, ...	100	503	1,743	2,346
30th September, 1920, ..	107	553	1,773	2,433
31st December, 1920, ...	124	813	1,842	2,779
31st March, 1921, ...	141	973	2,502	3,616
Total period, ...	667	3,620	10,596	14,883

Increase in the number of new patients has been slow—a fact which is probably due in part to the stigma attached to patients who attend a dispensary known to exist solely for the treatment of venereal diseases. The centre also labours under a disadvantage, as compared with the general hospitals, in that its existence is not well known either to practitioners or to the public—a disadvantage which can be overcome most effectively by improvement in the publicity arrangements in connection with the scheme generally. In this connection it may be that a circular letter regarding the dispensary issued to practitioners in May, 1920, partly accounts for the recent improvement in numbers.

The most satisfactory feature brought out in the above table is the steady, and latterly the rapid, increase in aggregate attendances. The proportion of attendances to new patients—23 in 1920—is high compared with that at other centres. Although this dispensary is not attracting new patients to the extent, say, that the Royal Infirmary does, it is retaining contact with those who have come better than any other centre. The extent to which the attendances still fall short of the ideal remains to be considered.

The following tables are designed to show the extent to which patients suffering from syphilis, gonorrhœa, and soft chancre respectively, have continued under treatment. They deal with a period dating from the opening of the dispensary to 31st December, 1920, and all cases suffering from forms of disease other than these three are excluded:—

Table Ia.—SYPHILIS.—Termination of Treatment of Patients Classified according to Domicile.

		Resident in Glasgow	Resident outwith Glasgow	Seafaring Men	Total
Number of Patients suffering from Syphilis, ...		106	13	25	144
Number still attending, ...		48	2	4	54
Number not now attending, ...		58	11	21	90
Number dismissed cured, ...		—	—	—	—
Number ceased attending of own accord	during 1st month,	25	5	14	44
	„ 2nd „	7	3	5	15
	„ 3rd „	6	1	—	7
	after 3 months,	20	2	2	24
Total number of attendances of patients not now attending, ...		482	28	167	677
Average per patient, ...		8·31	2·54	8·0	7·5

Table IIa.—GONORRHŒA.—Termination of Treatment of Patients Classified according to Domicile.

	Resident in Glasgow	Resident outwith Glasgow	Seafaring Men	Total
Number of Patients suffering from Gonorrhœa,	181	15	58	254
Number still attending.	75	6	8	89
Number not now attending, ...	106	9	50	165
Number dismissed cured, ...	46	2	6	54
Number ceased attending of own accord during 1st month,	30	4	36	70
,, 2nd ,,	13	2	5	20
,, 3rd ,,	5	1	—	6
after 3 months,	12	—	3	15
Total number of attendances of patients not now attending, ...	2,462	51	648	3,161
Average per patient, ...	23·22	5·66	13·0	19·2

Table IIIa.—CHANCROID.—Termination of Treatment of Patients Classified according to Domicile.

	Resident in Glasgow	Resident outwith Glasgow	Seafaring Men	Total
Number of Patients suffering from Chancroid,	53	2	15	70
Number still attending, ...	—	—	—	—
Number discharged, ...	53	2	15	70
Number dismissed cured, ...	35	1	5	41
Number ceased attending of own accord during 1st month,	12	—	9	21
,, 2nd ,,	4	—	1	5
,, 3rd ,,	1	1	—	2
after 3 months,	1	—	—	1
Total number of attendances of patients not now attending, ...	519	50	74	643
Average per patient, ...	9·80	25·0	5·0	9·2

Table Ib.—SYPHILIS.—Duration of Treatment and Number of Attendances of Patients whose Treatment has Terminated.

	Number of Attendances					
Duration of Treatment	1	1-10	10-20	20-40	40 & over	Total
Under 1 week, ...	3	10	—	—	—	13
1-4 weeks, ...	—	21	1	—	—	22
4-12 ,, ...	—	22	5	4	—	31
12-26 ,, ...	—	6	7	1	—	14
26-52 ,, ...	—	—	1	2	1	4
52 weeks and over, ...	—	—	—	2	4	6
Total, ...	3	59	14	9	5	90

Table IIb.—GONORRHŒA.—Duration of Treatment and Number of Attendances of Patients whose Treatment has Terminated.

	Number of Attendances					
Duration of Treatment	1	1-10	10-20	20-40	40 & over	Total
Under 1 week, ...	21	20	—	—	—	41
1-4 weeks, ...	—	24	18	4	1	47
4-12 ,, ...	—	4	17	14	3	38
12-26 ,, ...	—	—	2	8	7	17
26-52 ,, ...	—	—	—	3	7	10
52 weeks and over, ...	—	—	2	—	10	12
Total, ...	21	48	39	29	28	165

TABLE IIIb.—CHANCROID.—DURATION OF TREATMENT AND NUMBER OF ATTENDANCES OF PATIENTS WHOSE TREATMENT HAS TERMINATED.

Duration of Treatment	Number of Attendances					
	1	1-10	10-20	20-40	40 & over	Total
Under 1 week, ...	8	10	—	—	—	18
1-4 weeks, ...	—	25	—	2	—	27
4-12 ,, ...	—	12	1	3	1	17
12-26 ,, ...	—	—	2	3	1	6
26-52 ,, ...	—	—	1	1	—	2
52 weeks and over, ...	—	—	—	—	—	—
Total, ...	8	47	4	9	2	70

Tables (A) show for each disease the mode in which treatment terminated in those cases which were not attending at 31st December, 1920, and the average number of attendances made before termination of treatment. In the treatment of venereal diseases, especially of syphilis, where patients ought to remain under observation for prolonged periods, there is some difficulty in deciding whether a particular patient has really ceased to attend. For instance, a patient who is told to return in two months for examination may delay his return for three or four months. For the purpose of these returns patients who received such instruction within a reasonable period prior to 31st December, 1920, are regarded as still in attendance, and no patient is classified as having ceased treatment unless the Clinical Medical Officer, Dr. W. H. Brown, has good reason to believe that this is actually the case.

Tables (B) show, for patients whose treatment has terminated, the number who ceased attending within certain periods and the number of attendances made by the patients in each group. It is important to measure the attendance of patients by both these methods, since, on the one hand, certain patients may put in a large number of attendances within a short space of time and yet leave long before treatment has ceased to be necessary; while in other cases the period of treatment may be unduly prolonged by irregular attendance at the early stage.

Syphilis.—Up to 31st December, 1920, 144 cases came for treatment, in whom the diagnosis was definitely established as syphilis, and 54 were still on the books of the dispensary at that date, leaving 90 whose treatment had terminated. Of these 90 patients 58 gave addresses in Glasgow, 11 came from outside areas, and 21 were seafaring men. None were dismissed as cured; the dispensary had not been long enough in existence to justify such dismissal. Practically half the cases (44) ceased attending within one month, while only 24 remained under observation for more than three months, or roughly the period occupied by a first course of salvarsan treatment. The duration of attendance of seafaring men and patients from beyond the City boundaries does not materially differ from that of men resident in Glasgow.

Glasgow residents and seamen made, on an average, eight attendances before ceasing to attend—*i.e.*, sufficient for the administration of one short course of salvarsan treatment. On the other hand, the average of two attendances made by patients from outwith the City, although spread over an equally long period, is quite valueless for the purpose of treatment, and cannot be regarded otherwise than as a waste of time and material.

Table I (B) expresses the same facts in a different way. It demonstrates that more than two-thirds of the patients (66) ceased attendance in less than twelve weeks, and a similar proportion (62) made less than ten attendances. Of these 62 patients only 37 received seven injections—*i.e.*, the minimum regarded at this centre as being necessary for the treatment of any case of syphilis.

Gonorrhœa.—Altogether 254 cases of gonorrhœa came for treatment, and 89 were still in attendance at 31st December, 1920, while 165 had severed connection with the centre. Of the latter number 106 belonged to Glasgow, 9 resided at addresses outwith the City, and 50 were seamen. Less than one-third (54) were discharged as cured, and the remaining 111 left of their own accord, the majority (70) ceasing to attend within one month. The number of seafaring men whose treatment lapsed early was specially high (36 out of a total of 50). It should be observed that a smaller proportion of cases of gonorrhœa than of syphilis came from districts outwith the City, indicating probably that this disease is not regarded with sufficient gravity to induce patients to travel a distance for treatment.

Patients resident in Glasgow made an average of 23 attendances, extra-mural patients 6 attendances, and seamen 13 attendances.

Patients suffering from gonorrhœa can rarely be dismissed with safety in less than four weeks, and yet Table II (B) shows that of 165 patients 88, or more than half, had ceased attending in less than that time, 41 actually dropping off within a week, and, indeed, 21 made only one attendance.

Chancroid.—The figures in this connection are of less importance, as the disease is as a rule less serious, and requires a shorter course of treatment. But even here 29 out of 70 patients ceased attending while in an infective condition, 21 of them within one month. Table III (B) shows that 18 attended for less than a week, and of these 8 made only one attendance.

Discussion.—If twelve weeks be taken as a reasonable minimum period over which cases of syphilis should attend, and four weeks, say, for gonorrhœa and chancroid, it has been shown above that 66 of 90 cases of syphilis, 88 of 165 cases of gonorrhœa, and 45 of 70 cases of chancroid failed to attend for the requisite period. That is, roughly 61 per cent. of the patients are defaulters in this respect.

It must not be supposed that the centre in Broomielaw is unique in this experience. So far as information is available, attendance at Broomielaw is very good in comparison with that elsewhere, and this view is confirmed by the statistics for all centres in Glasgow during 1920, quoted in an earlier part of the Report. It is recognised by all concerned that the success of venereal diseases schemes is seriously hindered by the failure of patients to attend until medically discharged.

Measures which have been adopted to secure Attendance.—Realising the position to be unsatisfactory, Dr. W. H. Brown, in conjunction with the officers of the department, has drafted a letter in the following form, which is being issued to men who have prematurely ceased attending:—

Public Health Dispensary,
186 Broomielaw.

I notice that you have not returned for treatment since................................ As it is very important for your future health that your treatment should be continued, please come and see me, or let me know your reason for ceasing to attend, and particularly whether you are having treatment elsewhere.

....

Date..............................

The letter purposely gives no indication of the reason for the inquiry, in order to avoid causing domestic unhappiness. The result will be recorded in the next Annual Report, but it may be said that at least one instance of threatened discord has occurred through a wife opening the letter, and several others have been returned unopened, indicating a false address.

A similar method of following up patients is also adopted in suitable cases by the staff of the Lock Hospital, and has met with some success.

Further Measures which might be taken.—The Corporation of Liverpool had recently clauses incorporated in a Provisional Order, which have now been withdrawn, seeking power, among other things, to compel patients suffering from venereal disease to remain under treatment until medically discharged. This type of legislation has been under consideration by the N.C.C.V.D. for some time, and is already in force in Australia.

The feeling in favour of such a step is gathering strength in this country, but it is desirable that every other avenue to success should be explored before advocating compulsion. As the result of the practice of sending letters to patients useful experience will no doubt be gained, and it is possible that in some cases continuity of treatment might be secured by releasing the attendant from part of his routine duties to follow up and retain personal contact with patients in a tactful and informal way.

Laboratory Examinations.—The results of the bacteriological examination of specimens will be found in Section XI, which summarises the work of the Bacteriological Laboratory.

SECTION VII.

HOSPITALS, &c.

Knightswood Hospital.—Considerable progress has been made with the extension of this hospital, which was described in the previous Annual Report. It only falls to be added that some modification has been made in the plans, whereby the accommodation will be increased from 80 to 320 beds.

Southfield.—Plans for the erection of a sanatorium for the treatment of 300 children and 150 adults were prepared and sent to the Board of Health. The need for this additional accommodation is set forth in the memorandum on additional accommodation for tuberculosis (see page 73).

Smallpox Hospital Accommodation.—During the smallpox outbreak the cases were at first admitted to Belvidere Smallpox Hospital, but, as the numbers increased, the Corporation decided that Robroyston should be evacuated of its tubercular patients and devoted for the time being to its original purpose as a smallpox hospital.

RECEPTION HOUSES.

Baird Street Reception House.—This accommodation had for some years been utilised for the treatment of ophthalmia neonatorum, trachoma, and venereal diseases in children under 10 years of age. Owing to the number of smallpox contacts requiring supervision during 1920, the house was evacuated, and between April and December of that year 1,047 smallpox contacts and 7 contacts with typhus fever were admitted.

South York Street Reception House. — The following table shows the contacts and cases dealt with at this reception house during the year, compared with 1919: —

Contacts &c. admitted to Reception House.

	1919	1920		
South York Street		Adults	Children	Total
Smallpox, ...	18	497	183	680
Typhus Fever, ...	107	19	11	30
Enteric ,, ...	7	2	1	3
Scarlet ,, ...	—	2	3	5
Diphtheria,...	3	2	5	7
Impetigo, ...	—	—	2	2
Measles, ...	6	—	—	—
Others, ...	10	—	—	—
Scabies treated, ...	71	5	—	5
Verminous Persons treated, ...	18	5	4	9
Bathing and Disinfection, ...	—	7	1	8
Total, ...	240	539	210	749

DISINFECTING STATIONS.

Sanitary Wash-houses.—The following table summarises the washings and disinfections carried out at Ruchill and Belvidere Sanitary Wash-houses during the year 1920:—

		Belvidere	Ruchill	Total
Number of washings, ...		10,525	10,018	20,543
Average Number per day, ...		34·4	33·4	67·8
Articles washed and disinfected, ...		457,023	355,773	812,796
Average number of articles per washing,		43·4	35·51	39·57
Fuel consumed, ...	tons	596	541	1,137
Fuel used per article, ...	lbs.	2·92	3·41	3·13
Soap and powder used per article, ...	ozs.	·35	·63	·47
Disinfectant do. ...	ozs.	·39	·71	·53

NUMBER OF WASHINGS, ARTICLES DISINFECTED, &c., FOR YEARS 1918-20 INCLUSIVE.

	Washings	Articles	Sprayings	Whitewashings
1918, ...	20,553	875,226	13,446	190
1919, ...	23,150	896,801	14,675	132
1920, ..	20,543	812,796	20,155	1,499

SECTION VIII.

OFFENSIVE TRADES.

Tallow Melters.—In February an application was made to carry on the the business of tallow melter in premises in the Mile-End district, already registered for boiling edible fat, and was, in the first instance, refused on the ground that numerous offensive trades were already in the district, and that it was undesirable to add to their number. It was proposed to carry on this additional business in an extension of the premises, suitable provision being made for carrying on the process separately from that already existing. On appeal by the applicant, the Local Government Board held an inquiry, and sustained the appeal. The application was afterwards granted by the Corporation.

Gut Cleaners and Tallow Melters.—An application was made to extend a business of this nature in Vinegar Hill district. This business was in existence before the passing of the present Act, and the committee sanctioned the extension, subject to certain alterations being made in the pipe connections between the boiler and digester.

Tallow Melter. — Application was made to transfer a business from Kennyhill to premises in Carntyne Road. The fat was collected from shops and used for the manufacture of tallow for soap making. The material was collected in bags twice weekly and dealt with immediately it was received. In order to comply with the bye-laws certain alterations, mainly structural, were suggested, as the site was suitable for carrying on the proposed business.

Skinner and Hide Factor.—This application was in respect of premises also in the east end of the City for the storing of calf hides, which were brought daily to the premises. The hides were afterwards salted and forwarded twice weekly by rail to a tanner in the south of Scotland. The premises generally were altogether unsuitable, and situated in a congested area, and the application was refused.

Horse Slaughterers.—Permission to use temporary premises in the northern district of the City for the business of horse slaughterers was granted until July, when new premises, the plans of which had been approved by the Committee in the preceding year, were opened. A licence was granted to carry on the business in the new premises.

SECTION IX.

GLASGOW PORT LOCAL AUTHORITY.

SUMMARY OF WORK DURING 1920.

1,427 vessels from foreign ports passed the Boarding Station at Greenock, bound for the Customs Port of Glasgow, during the year 1920. Of this number 438 had come from or called at ports which were infected within the meaning of the Cholera Order.

The following table shows the number of arrivals in each month of the year in the several groups, as also the number of crews and passengers:—

NUMBER OF SHIPS ARRIVING FROM FOREIGN PORTS—YEAR 1920.

Month.	(A) H.M. Customs.	From Infected Ports. (B) With Foreign Cargo.			(C) Light, or with Outward Cargo.			Total of B and C.			(D) From Non-Infected Ports. with or without Cargo.			Total.		
		Ships.	Crew.	Pass.	Ships.	Crew.	Pass.	Ships.	Crew.	Pass.	Ships.	Crew.	Pass.	Ships	Crew.	Pass.
January,	63	13	568	1	22	1,638	...	35	2,206	1	58	2,551	187	93	4,757	188
February,	80	15	746	7	34	1,946	...	49	2,692	7	67	3,150	643	116	5,842	650
March,	92	18	1,277	...	18	1,255	...	36	2,532	...	85	3,312	516	121	5,844	516
April,	101	21	1,367	17	22	1,635	...	43	3,002	17	83	2,756	719	126	5,758	736
May.	89	19	1,098	1	21	1,458	...	40	2,556	1	83	3,207	1,146	123	5,763	1,147
June,	76	10	642	9	19	1,191	3	29	1,833	12	79	3,616	2,665	108	5,449	2,677
July,	83	13	796	2	18	1,263	3	31	2,059	5	85	3,240	2,480	116	5,299	2,485
August,	92	16	1,375	9	19	1,157	2	35	2,532	11	91	4,328	1,686	126	6.860	1,697
September,	97	11	605	...	14	1,001	10	25	1,606	10	104	4,605	1,053	129	6,211	1.063
October,	90	16	1,079	6	22	1.566	1	38	2,645	7	86	3,668	1,142	124	6.313	1,149
November,	88	22	1,506	1	16	837	8	38	2,343	9	77	3,199	531	115	5,542	540
December,	88	13	705	...	26	1,517	2	39	2,222	2	91	3,384	1,323	130	5,606	1,325
Total,	1,039	187	11,764	53	251	16,464	29	438	28.228	82	989	41,016	14,091	1,427	69,244	14.173

RETURN OF INFECTIOUS DISEASES ON BOARD SHIPS BOUND FOR GLASGOW DURING 1920.

Diseases.	Total Number of Cases.	Cases Found on Arrival.	Cases Dealt with in other Ports.	Cases Sent to Hospital in Glasgow.	Cases Sent Home	Deaths.
Cholera,	8	—	8	—	—	2
Plague,	1	—	1	—	—	—
Smallpox,	—	—	—	—	—	—
Enteric Fever,	13	11	2	11	—	—
Scarlet Fever,	4	4	—	4	—	—
Measles,	15	15	—	13	2	—
Chickenpox,	10	10	—	9	1	—
Pertussis,	3	3	—	1	2	—
Diphtheria,	6	6	—	6	—	—
Erysipelas,	2	2	—	2	—	—
Phthisis,	4	4	—	4	—	—
Beri-beri,	1	1	—	1	—	—
Dysentery,	2	2	—	2	—	—
Pneumonia,	10	10	—	7	3	1
Glandular Swellings,	1	—	1	—	—	—
Cerebro-spinal Fever,	1	1	—	1	—	—
Malarial Fever,	4	4	—	4	—	—
Scabies,	1	1	—	—	1	—
Venereal Disease,	3	3	—	—	3	—
Influenza,	4	4	—	4	—	—
Impetigo Contagiosus,	1	1	—	1	—	—
Favus,	1	1	—	—	1	—
For Observation,	*7	7	—	7	—	—
	102	90	12	77	13	3

$\underbrace{90 \quad 12}_{102}$

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* As possibly infectious.

Cholera. — No case of cholera or plague was present aboard any ship on arrival during the year, but on an oil-tank several cases of cholera had occurred among members of the crew shortly after the ship left Abadan, near Basra, en route for the Clyde. Disinfection was finally carried out at Suez on 23rd November, and the ship arrived in the Clyde on 11th December, no further case having occurred.

Plague.—In another instance the master reported, on arrival in the Clyde, that the ship's carpenter had been removed to hospital at Rosario, suffering from plague, and that the ship had been thereafter quarantined for six days.

Enteric Fever.—Of the 13 cases of enteric fever recorded, 10 occurred among members of crews and 3 were passengers. All of the cases were removed to hospital in Glasgow, with the exception of 2 members of crews, dealt with at Colombo and Antwerp.

Scarlet Fever.—Four cases of scarlet fever were recorded, three of whom were passengers from overseas, and one a deck hand on a coasting vessel.

Measles.—Of 15 cases of measles recorded, one was removed from H.M.S. " Hood " and one from a small coaster, the S.S. " Invercloy," in Glasgow Harbour.

Chickenpox.—Ten cases were notified during the year. Of these, 8 were removed from incoming ships, and were all members of crews, with one exception—that of a child cabin passenger. One case was removed from the Dock Lodging-House and Restaurant (a lascar), and one case was detected on board an out-going vessel.

Diphtheria.—Of the 6 cases of diphtheria noted during the year, 4 occurred on one British ship from Montreal. They were all cabin passengers —3 children and 1 adult. The fifth case was that of an adult 3rd-class passenger, also from Montreal, and the sixth case that of a sailor on board a Norwegian ship from Bilbao.

Phthisis.—Of four cases of phthisis noted during the year, one was an American citizen passenger, and three members of ships' crews.

Pneumonia.—Only 10 cases of pneumonia were noted, of which 7 were members of lascar crews, and the other 3 were passengers.

Malaria.—Four cases were noted. All were members of crew of a British ship from Tampico.

ALIENS ORDER.

The Aliens Order came into force on 1st September, 1919. This Order governs the landing of aliens in the United Kingdom at approved ports and subject to inspection by the Immigration Officer and Medical Inspector.

The purpose of the examination of aliens at approved ports is to exclude aliens—

(*a*) whose presence is likely to be a danger to the public health; or

(*b*) who are likely to become a charge on public funds because—

  (i) they are or may become incapable of supporting themselves and their dependents; or

  (ii) their condition is such as to render it probable that they will need treatment and care which they are unable to provide themselves.

Arrangements whereby the medical inspection of alien passengers is carried out in conjunction with the examination by the Immigration Officer began on the 4th December, 1920. During that month only 4 vessels carrying alien passengers arrived at this port—2 from Montreal, 1 from Portland (Me.), and 1 from New York. These in all carried 260 alien passengers. Of this number 163 were citizens of U.S.A. proceeding on holiday (non-transmigrants), and 97 Europeans (transmigrants) proceeding to the Continent. There were no rejections on medical grounds during the month.

NUISANCES ON SHIPBOARD.

2,760 inspections and reinspections of vessels in harbour were made during the year. The visits to oversea steamers numbered 1,427, and the revisits 501. In overseas sailing vessels 11 inspections and 11 revisits were made, while 571 coasting steamers and 23 sailing craft were examined, revisits being paid to 196 of the former and to 16 of the latter. 291 verbal warnings were given to masters where nuisances of a minor nature were found, and 180 intimations and 6 notices were served where defects existed. 403 verbal instructions were given, and 980 notices served on masters of vessels *re* locking up water-closet accommodation while vessels were in port.

The nuisances discovered numbered 1,980—in forecastles, rooms, &c., 873; and in water-closets, wash-houses, &c., 396; while structural defects were found in 430 instances—389 within crews' quarters, and 41 in water-closet and lavatory compartments. General complaints were recorded in 281 instances.

Sanitary Defects and Nuisances.—The following table shows the sanitary defects or nuisances found on board vessels arriving in the Harbour:—

Nuisances found within the Glasgow Area during the Years 1918-1920.

Arising from Misuse	1918	1919	1920
Forecastles, Rooms, &c,—			
Alleyways and companionways dirty, ...	58	87	110
Floors, mat coverings, ceilings, woodwork, &c., dirty, ...	161	276	351
Interior of ships' sides or woodwork dirty (to be limewashed or repainted), ...	89	132	167
Galleys dirty, ...	2	4	1
Tables and benches dirty, ...	40	179	235
Scuppers choked (water lying stagnant), ...	1	10	2
Afterpeak flooded, ...	1	—	2
Cattlemen's quarters dirty, ...	2	—	5
Rooms flooded, ...	—	—	5
	354	688	873
Water-closets, Wash-houses, &c.—			
Floors, ceilings, and woodwork dirty (to be cleansed or limewashed),	153	232	246
Basins, hoppers, or troughs fouled, corroded, or choked, ...	89	130	135
Scuppers choked, ...	1	4	12
Wash-house dirty, ...	—	—	3
	243	366	396
General Nuisances.			
Food lockers dirty, ...	29	—	12
Bilges (hold) dirty, ...	27	20	52
Gear and food-stuffs stored in sleeping compartments, ...	7	5	1
Drinking-water tanks dirty and in need of re-cementing, ...	54	93	176
Do. out of repair or uncovered, ...	4	3	3
Accumulation of rubbish in forecastle or on deck, ...	2	13	20
Forecastle infested with vermin, ...	10	16	17
	133	150	281

NUISANCES FOUND WITHIN THE GLASGOW AREA (*Continued*)—

ARISING FROM STRUCTURAL DEFECTS.	1918	1919	1920
Forecastles, Rooms, &c.—			
Overhead decks leaking,	60	88	105
Ports defective,	87	170	196
Skylights out of repair,	1	—	1
Without scupper-pipe or same cemented,	2	1	2
Ventilators plugged, out of repair or unshipped,	5	1	3
Without bogies or funnels, or such out of repair,	8	38	15
Inadequately lighted or ventilated,	1	6	12
Radiators or steam-pipes defective,	4	11	9
Doors to forepeak and forecastle broken,	1	1	1
Ships' sides leaking,	6	4	4
Anchor chain exposed by sheathing being out of repair,	4	2	3
Doors of food lockers and seats out of repair,	22	6	16
Requiring wood-sheathing or cork-spraying for "sweat,"	9	2	5
Tables and fittings out of repair,	2	—	—
Hawse-pipes defective,	2	—	7
Companionways, stairs, &c., out of repair,	2	—	—
Floors broken and out of repair,	3	2	6
Bulkhead between forecastle and w.c. compartment broken,	2	2	—
Fittings at hawse-pipe defective,	2	—	—
Inadequately ventilated,	8	19	—
Scuppers required,	3	—	12
Bunks in a decaying condition,	3	—	2
	237	353	389
Water-closets, Urinals, Wash-houses, &c.—			
Flushing apparatus, basins or discharge pipes defective,	5	2	15
New water-closet required,	2	7	9
Ports defective,	6	—	6
Floor and woodwork out of repair,	1	4	—
Doors broken and new locks required (w.c.'s must be locked while ship is in harbour),	14	6	7
Ventilators plugged,	3	—	1
Woodwork of w.c. basin broken,	2	—	1
Compartments defective in light and ventilation,	—	2	8
	33	21	41

The following table shows the nationality of oversea vessels which arrived within the Glasgow area during 1918-20:—

Nationality.	Number of Vessels. 1918	1919	1920	Number of Crews.
American,	59	32	88	3,964
Arabs on British Ships,	—	—	—	47
Argentine,	—	—	1	26
Austria-Hungary,	—	—	—	—
Belgian,	2	—	2	70
Brazilian,	3	—	—	—
British,	754	893	1,114	58,797
Chilian,	—	—	—	—
Danish,	21	24	10	177
Dutch,	—	12	7	137
Finnish,	—	—	2	47
French,	26	13	11	328
German,	—	—	—	—
Greek,	8	8	6	134
Italian,	20	19	9	350
Japanese,	—	9	18	1,392
Norwegian,	146	97	85	1,620
Peruvian,	—	1	—	—
Portuguese,	6	—	2	50
Russian,	4	1	2	111
Spanish,	18	31	56	1,648
Swedish,	32	36	13	247
Uruguayan,	—	—	1	99
Total,	1,099	1,176	1,427	69,244

The following table shows the number of oversea and coastwise ships inspected in the Harbour during the years 1918-1920:—

	1918	1919	1928
Inspections—			
Oversea Steam, ...	1,091	1,162	1,427
,, Sail, ...	5	12	11
Coast Steam, ...	79	268	571
,, Sail, ...	13	26	23
Re-inspections—			
Oversea Steam, ...	324	364	501
,, Sail, ...	5	9	11
Coast Steam, ...	1	71	196
,, Sail, ...	—	6	16
Intimations, ...	83	132	180
Warnings, ...	104	242	291
Notices, ...	2	3	6
L. A.'s Letters, ...	2	8	10
Nuisances—			
Functional, ...	597	1,054	1,269
Structural, ...	270	374	430
General, ...	133	150	281

Of the total arrivals 1,114 were British, and 315 were vessels sailing under a foreign flag, the latter including sixteen different nationalities—Norwegians, Americans, Spaniards, Japanese, and Swedish predominating.

Drinking Water.—Where any suspicion arises as to the suitability of water supplies for dietetic purposes a sample is submitted to the Bacteriologist and City Analyst respectively, and during 1920 five were taken. Two of them were reported as suitable, and three as unsuitable. Of the latter, one of the supplies was shipped from the River La Plata (Chico Bank), while the other two were obtained at Philadelphia. Notice was given in each instance, requesting that the tanks be cleaned and cement washed.

UNSOUND FOOD REGULATIONS.

The following table shows the character and weight of the food-stuffs imported during 1920 (but does not include coastwise or transhipped cargoes), a percentage of which was examined by the Food Inspectors before its removal:—

	Weight.			Weight.	
Article.	Tons.	Cwts.	Article.	Tons.	Cwts.
Apples, ...	32,221	0	Eggs (liquid), ...	1,532	16
Apricots, ...	159	12	Figs, ...	295	8
Almonds, ...	753	5	Fish (preserved), ...	1,248	5
Bacon, ...	13,506	4	Fruits (canned), ...	2,819	18
Baking Powder, ...	39	10	Fruits (dried), ...	2,121	2
Barley, ...	54,214	10	Fruit (pulp), ...	260	10
Butter, ...	15	14	Glucose, ...	3,604	11
Cereals (Oats, Rye, &c.),	112,231	9	Grapes, ...	3,105	14
Cheese, ...	4,927	0	Grape-Fruit, ...	10	6
Chicory, ...	194	19	Grape-Nuts, ...	136	10
Cherries, ...	71	8	Ham, ...	6,242	5
Cocoa, ...	5	1	Honey, ...	2	2
Condiments, ...	231	10	Lard (pure), ...	2,893	15
Confections, ...	855	0	Lard (compound), ...	623	16
Cream of Tartar, ...	354	7	Lemons, ...	1,993	7
Eggs, ...	3.383	14	Liquorice, ...	4	9

Article.	Weight.		Article.	Weight.	
	Tons.	Cwts.		Tons.	Cwts.
Meal & Flour (various),	164,459	19	Peas, Beans, &c.,	19,804	14
Macaroni,	168	4	Plums (preserved),	1,365	11
Meats (preserved),	700	10	Pomegranates,	168	6
Melons,	2,066	7	Potatoes,	273	10
Milk (canned),	3,598	8	Prunes,	644	4
Milk (powder),	71	14	Rice,	7,810	9
Molasses,	1,797	13	Sulphur,	507	14
Nuts (various),	3,871	3	Sundries,	310	2
Oils (various),	1,156	4	Sugar,	21,714	19
Onions,	6,336	8	Syrup,	189	0
Oranges,	21,691	1	Tomatoes,	108	17
Orange and Lemon Peel,	216	7	Tomatoes (canned),	309	3
Peaches (canned),	175	18	Tapioca,	27	19
Pears,	214	13	Vegetables (preserved),	255	8
Pears (canned),	402	13	Wheat,	348,154	11
Pineapple (canned),	428	12			
			Total weight,	859,058	18

The table which follows contains the record of food-stuffs found unfit and disposed of to the satisfaction of the Medical Officer of Health:—

Article.	Weight.			Article.	Weight.		
	Cwts.	Qrs.	Lbs.		Cwts.	Qrs.	Lbs.
Apples,	139	1	12	Tangerine Oranges,	561	0	0
Black Currant Pulp,	6	3	26	Milk (condensed),	45	0	0
Eggs (liquid),	0	1	24	Oranges,	50	0	0
Ginger (preserved),	0	2	0	Pears,	520	0	0
Grape-Fruit,	0	2	0	Raisins,	11	3	21
Ham,	78	2	1	Tomato Purée,	5	3	16
Herring (pickled),	186	3	0	Winkles,	0	0	0
Maize-Flakes,	123	1	4	Wheat,	17	2	0

Total weight, - - - - 1,748 cwts. 1 qrs. 20 lbs.

Of food-stuffs imported during the year, amounting to 859,058 tons 18 cwts., 1,748 cwts. 1 qr. 20 lbs. were found to be unwholesome, or ·01 per cent. of the total.

During the year 1920, 37 samples were submitted to the Corporation Chemist for examination. Nine of these were egg yolk and 1 whole egg, all of which were satisfactory, although containing between 1 and 2 per cent. of boric acid as a preservative. Seven samples of cream of tartar were examined for the presence of lead, 1 of which, imported from Malaga, contained 60 parts per million. This consignment was detained until a guarantee was given that the cream of tartar would be mixed with other makes containing a very small amount of lead, so as to reduce the percentage to not more than ·002. Of 5 samples of flour submitted for analysis, 4 were from cargoes imported from China, regarding which the Chemist stated that "chemical and miscroscopical examination shows flour to consist entirely of wheat flour of a grade comparable with 'winter wheat flour.'" The remaining samples were of condensed milk, sugar, fruit pulp, &c.

Foreign Meat Regulations.—The following table gives the total quantities of food material landed in the Port of Glasgow during the year

1920, a percentage of which was examined under the Foreign Meat Regulations. The returns for 1918 and 1919 are given for comparison:—

	1918	1919	1920
BEEF.			
Quarters,	77,365	54,524	28,287
Bags,	9,778	1,095	4,256
Rumps (tierces),	355	4,930	3,957
Mess ,,	250	720	1,100
,, (barrels),	—	1,151	1,520
,, (boxes),	—	1,700	135
Boneless (boxes),	—	25,545	25,035
,, (bags).	—	—	—
,, (cuts),	—	42,593	26,861
VEAL.			
Carcases,	735	70	—
Sides,	26	665	759
Quarters,	—	—	—
Bags,	—	—	—
Cuts.	—	1,049	—
Packages,	—	—	730
Boxes,	—	—	655
MUTTON.			
Carcases,	77,478	294,539	239,858
Cuts (bags),	297	3,086	79
PORK.			
Carcases,	—	—	500
Ribs (tierces),	—	—	15
Mess (barrels).	—	1,412	1,145
,, (carcases).	—	300	220
,, (boxes),	—	—	180
,, (tierces),	—	—	110
Tongues, &c. (bags or boxes),	17	440	—
Kidneys ,, ,,	2,121	1,911	—
Hearts ,, ,,	2,116	1,077	69
Livers ,, ,,	4,408	2,895	—
Runners ,, ,,	—	—	—
Casings ,, ,,	—	335	167
Pigs' Feet and Heads ,,	—	—	—
Cheeks (boxes),	—	206	—
Ham and Bacon (bags or boxes),	—	—	—
Ham (tierces),	—	147	—
Sundries (tierces or bags),	62,094	18,208	847
Caule Fat (boxes).	—	—	440
Offal (bags),	—	—	12,020
Raw Tripe (bags),	—	—	253
Cooked Tripe (boxes),	—	—	817
Total Packages,	237,040	458,598	350,015

DESTROYED.

	1918	1919	1920
Beef (bags),	—	—	1
Beef Rumps (tierces),	—	2	—
Offal (bags),	—	—	115
Sheep's Heart (bag),	—	—	1

Expenditure and Revenue.—This is summarised in the table which follows. During the year the Boarding Medical Officer returned from military service and resumed duty at the Tail of the Bank. This explains the increased expenditure at the Boarding Station, while increased bonus and higher hospital charges are responsible for the difference in the other items:—

EXPENDITURE AND REVENUE FOR THE YEARS ENDING 31ST MAY.

	1919	1920	1921
Expenditure.	£	£	£
Boarding Station, Greenock, ...	316	445	855
Glasgow Harbour, ...	2,416	2,243	2,862
General and Administrative, ...	839	750	893
Total, ...	3,571	3,438	4,610
Revenue.			
From other Authorities, etc., ...	269	157	175
Glasgow Expenditure, ...	3,302	3,281	4,435

SECTION X.

HOUSING.

The Rent and Mortgage Interest (Restrictions) Act, 1920, placed certain restrictions on increasing the rents of houses which in the opinion of the Sanitary Authority were not reasonably fit for human habitation, or not in a reasonable state of repair.

The Committee, in considering the Act, instructed that the occupiers of old tenements contained in the Housing Report be informed thereof.

THE HOUSING REPORT.

This Housing Report took origin in a resolution of the Corporation on 13th October, 1910, following upon a motion by Councillors Whitson and Cairns, " that it be remitted to the Health Committee to consider and report as to the necessity in the matter of public health for the immediate removal, so far as can be done under existing legislation, of all insanitary and obstructive buildings in congested areas in the City."

The preparation of the Report was begun immediately, but the occurrence of an adverse decision under Section 30 of the Housing of the Working Classes Act, and consequent appeal to the Court of Session, delayed its issue until the legal question had been decided.

Parts I and III of the Report were finally issued in November, 1911, but Part II, by the express instruction of the Committee, was withheld.

The tenements were grouped in two categories, one containing a list of those where demolition was recommended, and the other a list of those in which reconstruction might be adequate.

The circumstances under which demolition is recommended are thus referred to on page 145 of the original Report:—

(1) When a tenement is so planned, or is in such a state of structural neglect, that its defects are practically irremediable; or

(2) when, being a backland, it obstructs the ventilation of the area or the lighting and ventilation of front tenements, or is similarly obstructed by them or other buildings, including business premises, in the interior of the block.

At that date, in the two groups of wards examined, it was reported that 657 tenements required demolition and 301 tenements substantial reconstruction.

During the months which followed questions were asked with regard to the number of houses contained in these tenements, and opportunity occurred in the representations prepared concerning areas in School Wynd, Centre Street, S.S., Parliamentary Road, and Marlborough Street and elsewhere, to note that the average number of houses per tenement was just over 9, 9·1 being the average yielded by 300 representations previously made.

Using this, therefore, as a multiple, the tenements for demolition may be estimated to contain 5,978 houses, and those for repair 2,739.

Extended Report.—As the wish of the Corporation had been restricted to insanitary and obstructive buildings in congested areas, the first Report was confined to two groups of wards—one in which the ward death-rate was always above the City mean, and the other in which it was sometimes below the City mean. Subsequently (in 1915) the Report was extended to include in one group (C) the remaining eleven wards, whose annual death-rates never reached the City rate, and finally a Group D was added, covering the wards annexed in 1912. These subsequent surveys added considerably to the numbers in the original Report.

When Groups C and D were added, the number of tenements requiring radical reconstruction rose to 387, and of tenements fit for demolition to 722. Using the same factor, 9·1, this would give 10,091 houses.

In 1919 occasion was taken, in regrouping the ward distribution of those houses, to revise the survey, and several additions were made. Together the figures may thus be stated:—

In the Central Division 339 front lands and 75 back lands were found not reasonably fit for human habitation; in the Northern, 210 front lands and 104 back lands; in the Eastern, 256 front lands and 191 back lands; in the South-Eastern, 105 front lands and 93 back lands; in the South-Western, 38 front lands and 39 back lands. Together these number 948 front lands and 502 back lands, and make a total of 1,450 tenements.

The previous factor (9·1) gives 13,195 dwelling-houses, and, using the factor 4·4 as the number of inmates per house, it may be estimated that about 58,000 people are living in houses not reasonably fit for human habitation.

The shortage in housing accommodation, which the war rendered acute, and the condition of such as were not reasonably fit for human occupation and were not in a reasonable state of repair, created problems which were dealt with in the following report:—

HOUSING OF THE WORKING CLASSES.

Memorandum by the Medical Officer of Health.

In view of the present shortage of houses and the state of disrepair into which many of them have fallen, it is desirable that the Committee should reconsider the use of Section 17 of the Housing, Town Planning, &c., Act, 1909.

This section is applicable to houses requiring demolition, reconstruction, or repair of so extensive a character that a closing order is sought, which in turn requires that the house be evacuated of its occupants.

The section further provides that an owner may appeal to the Sheriff against the operation of such order within 14 days after it has been served upon him, and when such appeal has been lodged the Act prohibits any repair being effected until the appeal is disposed of (Section 39 (2)).

Since the shortage of accommodation became urgent, and practically almost from the beginning of the war, it has been found impracticable to displace tenants—to any degree, at least, commensurate with the number of houses represented and for which closing orders have been issued. This policy, which originated in a recognition of the new conditions imposed by the war, obtained the inferential sanction of Parliament in Section 6 of the Housing (Additional Powers) Act, 1919, which prohibited the demolition or conversion to other uses of houses without the written permission of the Local Authority.

The combined result of these conditions has been to continue in occupancy many houses for which formal closing orders have been issued, and in which no or limited repairs had been carried out, and to leave dormant every case in which an appeal had been lodged.

In practice, therefore, the immediate result of the application of Section 17 has been to create a group of houses in which further procedure under the Act is barred, although, save in the limited number in which some repair has been effected, the conditions are now worse than when they were first represented.

In order to present to the committee a concrete picture of the magnitude of this group, the houses represented since 1913 under Section 17 have been recently surveyed, and the results are summarised in the annexed tables.

Table I shows the number of houses represented under Section 17 since 1913 and still occupied, and Table II the state of repair of these latter. Repair described as "fair" in Table II may be taken as equivalent to the present low standard of repair in working-class property in many districts, and the Summary Table shows that 679 houses out of 989 occupied are below that standard.

The failure of Section 17 to accomplish the purpose for which it was designed raises two questions, which will now be considered.

(1) The houses already represented fall into one or other of two categories:—

(*a*) Those in which a closing order has been issued and not determined (*i.e.*, withdrawn), and

(*b*) Those which have been appealed.

(2) Houses in like condition, but not yet represented or otherwise dealt with.

In both groups there are houses in overbuilt areas where no degree of repair will remove fundamental defects such as deficiencies in light and ventilation, which to a considerable extent arise from the overbuilding. Yet under present conditions there is no alternative to their occupancy until other accommodation is available. Are they to become progressively worse, or may such limited repairs as will ensure the structural conditions which are essential to cleanliness and comfort be asked without compromising the future action of the Local Authority for demolition or reconstruction where such action is possible?

Section 25 of the Housing, Town Planning, &c. (Scotland), Act, 1919, would appear to meet this contingency. It enables a Local Authority to require the owner of any house "suitable for occupation" by persons of the working classes to "execute such works as may be necessary to make the house in all respects reasonably fit for human habitation." This, however, is qualified by the provision that it must be capable of being rendered reasonably fit "without reconstruction," and one is thrown back on the primary conception of what is reasonably fit for human habitation and the obvious anomaly of asking that a house which may not be so described should be repaired so that it may be rendered temporarily fit. Even so, however, the circumstances seem to demand that this position be accepted with the the reservation that in every such case the owner be fully informed that the repairs asked do not foreclose further action by the Local Authority when other houses become available.

But, while this would supply a method for dealing with houses in Category (2), action in those in Category (1) (*a*) and (*b*) would seem to be barred by the action already taken under Section 17 unless there is some legal process by which the closing orders still undetermined may be withdrawn or quashed.

As an example of the type of property to which procedure under the 1919 Act might be applicable, the front and back tenements at 21 Lyon Street may be considered. The former was originally represented in 1904, and the latter in 1907.

These tenements consist of 21 one-apartment houses and 3 two-apartment houses, with a total pre-war rental of £91 10s. per annum. The defects may be grouped under the following headings:—

(1) *Defects irremediable under Section 25 of the Housing, Town Planning, &c., (Scotland) Act, 1919, either because of situation or because of the need for structural alteration, or because the defects are so extensive as to be irreparable while the houses are occupied.*

(*a*) Situation in a congested area, ventilation generally and lighting of certain houses being seriously impaired.

(*b*) Absence of damp-proof courses and of ventilation under floors of ground-flat houses, associated with dampness of walls and decay of floors therein.

(*c*) Dark lobbies in ground-flat of front land and inadequately ventilated lobbies in upper flats of both lands.

(*d*) Stonework of front land generally defective.

(*e*) No sinks or water supply in houses in back land.

(*f*) Roof of front land sagging, and requiring repair of woodwork, as well as reslating.

(*g*) Floors throughout houses in both lands worn and open at joints.

(*h*) Absence of wash-house accommodation.

(2) *Defects remediable under Section 25 of the Housing, Town Planning, &c. (Scotland) Act*, 1919.

(*a*) Defective plaster of walls and ceilings in closes, staircases, houses, and W.C. compartments.

(*b*) Worn treads of stairs.

(*c*) Disrepair of woodwork, sash-cords, &c., of windows, and broken panes of glass.

(*d*) Defective woodwork and fittings of doors, presses, sinks, coal bunkers, &c.

(*e*) Minor defects of roof (*e.g.*, displaced slates, admitting rain-water), broken rhones, &c.

(*f*) Absence of seats on water-closets.

Both tenements are worn out, and ought to be demolished, but in the meantime action under Section 25 of the 1919 Act would ameliorate the minor defects enumerated under heading (2).

As an alternative to Section 25 of the Housing Act minor defects might be dealt with under Section 16 of the Public Health (Scotland) Act, 1897. This would entail departure from the use of the Housing Acts in properties of this type. The argument for such procedure is that notice under Section 25 of the 1919 Act would appear, as has been stated, to carry the implication that a house will be rendered reasonably fit for human habitation as soon as the repairs asked have been carried out, although the general conditions which render it unfit for human habitation remain.

Another example—16-18 Whitelaw Street, Maryhill—presents problems of a somewhat different character. This property consists of four single-apartment houses, with a total pre-war rental of £20 per annum. It is old and dilapidated, and incapable of adequate repair. Moreover, the defects most urgently requiring remedy are not defects of repair to which Section 25 of the Housing, Town Planning, &c. (Scotland), Act, 1919, is applicable. They may be stated as follows:—

(*a*) Great dampness of walls of ground-flat houses.

(*b*) Absence of water-closet accomodation—open-pan privy in court.

(*c*) Absence of water supply and sinks in houses; Kennedy well in back court for all houses, trough on pavement for ground-flat houses, and sink on stair landing for upper flat.

(*d*) Various defects of floors, walls, &c.

Any serious effort to remedy the defects mentioned above would involve expenditure which, if incurred, might be used as an argument against closure at any subsequent date in the near future. The absolute minimum that could be requested in order to make the premises temporarily habitable would be to remedy the dampness of the walls. It would also be desirable to carry water supply at least to the landing of the upper flat, to transfer the Kennedy well to the pavement in front of the door of the ground-flat houses, and to fit a door to the open privy in the back court, so as to avoid a recurring nuisance.

But even such minimum demands would probably be met with refusal on the ground that the property could not bear the expenditure, and the owner might then state his intention of closing the house, as is provided for in Section 25. In that case he would probably find it impossible to eject the tenants, who would then remain in occupancy without any repair or improvement being carried out. The position would be exactly that which would be arrived at directly by applying closure to the property under Section 17 of the Housing, Town Planning, &c., Act, 1909, which, as already explained, is at present ineffective.

On the whole, in a property of this kind, where the items of disrepair are of much less importance than the structural defects, it is doubtful if there is any alternative even temporarily to the application of Section 17 or other sections aiming directly at demolition.

Difficulty of a financial character is likely to be urged in repairing, even to the minimum extent, the class of property under consideration. Recent demands of the department have evoked the statement from several factors that such properties are already not paying their way, and that closure would be preferable to repair from their point of view.

The following extract from a factor's letter (regarding repairs, &c., at 21 Bright Street) illustrates some of the questions which are occurring:—

> "Even in good tenements built over 40 years ago we have this trouble of damp creeping up the lower portion of walls on ground floor; where it is an outside wall or a wall next the close I have strapped and lathed them as the only cure—except gouffing. The cost at present and the difficulty of men and material makes this almost impossible.
>
> "I have given the mason orders to begin, and the joiner will follow him when ready. Where I am to get the money I don't know. The property showed a debit balance last half-year, though the only extra was asphalting the pavement—yet there are no bonds."

It is probable, therefore, that procedure under Section 25 of the 1919 Act will end in much of the work having to be carried out by the committee.

In asking repair of the type of property to which Section 17 was formerly applied it may seem desirable to omit as far as possible for the present items involving cost out of proportion to the time for which the repairs will be accepted as reasonable compliance with the requirements. The letter quoted above gives the instance of dampness—a defect which is common* in ground-flat houses and costly to remedy, but generally regarded as detrimental to health. Where dampness of a ground-flat house is not grave in character it should probably be omitted from the notice to the owner, although its presence would be recorded along with other grave defects properly dealt with under Section 17. Worn flooring with gaping joints would fall into the same category.

The policy outlined above means departure, for the present, from the application of Section 17 of the Housing, Town Planning, &c., Act, 1909, save in exceptional cases, and calls for the careful consideration of the Committee. As already indicated, it is important to decide as to the effect which application of

Section 25 of the Housing, Town Planning, &c. (Scotland), Act, 1919, would have on subsequent procedure under Section 17. If it is considered that such effect would be harmful, despite the proviso that it may be used without prejudice to other powers, Section 16 (Nuisances) of the Public Health (Scotland) Act, 1897, might be applied, although it is scarcely elastic enough to meet all the conditions.

*A recent survey of 473 ground-flat houses, taken at random in the Northern Division, showed dampness in walls to a slight degree in 34 per cent., and to a marked degree in 18 per cent.—or, together, in 52 per cent. some degree of dampness was present.

A. K. CHALMERS.

Sanitary Chambers,
Glasgow, 4th January, 1921.

HOUSING, TOWN PLANNING, &c., ACT, 1909. SECTION 17.

Table I.—Occupancy at 31st December, 1920, of Houses Represented and not Demolished since 1913.

Number of Houses	Number still Occupied as Dwelling-House	Number Occupied as Business Premises	Number Closed
1,870	1,234*	76	544

* This number includes 245 houses in which the Closing Orders were withdrawn after repair or reconstruction. These Closing Orders originally affected 261 houses, but reconstruction of the properties in which some were situated brought about a reduction in the number of houses by 16.

Table II.—Present State of Repair of Occupied Dwelling Houses to which Closing Orders have been applied and not subsequently withdrawn.

State of Repair	Closing Orders not enforced by Local Authority	Closing Orders appealed against by Owner	Total
Good, ...	3	7	10
Fair, ...	34	266	300
Bad, ...	90	497	587
Very Bad, ...	13	79	92
Total,	140	849	989*

* This number corresponds with the number stated as being occupied as dwelling-houses in Table I., after deduction of the 245 houses repaired or reconstructed.

NOTE BY THE TOWN-CLERK.

The powers contained in the Housing Acts under which a Local Authority may act in dealing with houses which in their opinion are not in all respects habitable are as follows :—

(1) Section 15 of the Housing, Town Planning, &c., Act, 1909, which enacts that there is an implied obligation on every owner of houses of rents not exceeding £16 per annum to keep the same in all respects fit for human habitation, and gives power to a Local Authority to require the landlord within a reasonable time, being not less than 21 days from the date of notice, to execute such specified works as may be necessary to make the house in all respects reasonably fit for human habitation. The landlord may in his option declare his intention to close the house, and, failing his doing this or carrying out the repairs, the Local Authority may themselves have the repairs done and recover the cost from the landlord. The Landlord may appeal to the Sheriff against a notice requiring him to do repairs.

(2) Section 25 of the Housing, &c., Act, 1919, amplifies the powers of the Local Authority by extending them, without prejudice to any other powers, to include any house suitable for occupation by the working classes without limitation of rent and without option to the owner to close the house unless where structural alterations are necessary. The right to appeal is preserved.

(3) Section 17 of the 1909 Act makes it the duty of a Local Authority to deal with houses in a state so dangerous or injurious to health as to be unfit for human habitation by making an order closing them until in the judgment of the Local Authority they have been rendered fit for that purpose. The owner may appeal to the Sheriff within 14 days of the date of service of the order, or he may acquiesce and proceed to make the house habitable. If he appeals, then by Section 39 (2) no repairs are to be done till the appeal is determined.

(4) Section 18 continues the procedure by enacting that where a Closing Order has been operative for three months the Local Authority will take into consideration the demolition of the house, and they may extend the operation of the Closing Order for six months to enable the owner to carry out the necessary repairs if he signifies his willingness to do so. Failing the necessary repairs being carried out the Local Authority shall order demolition.

In the present state of acute shortage of dwelling-house accommodation in the City and the limited and costly means of carrying out repairs it will be necessary for the committee to consider very carefully how far action should be taken. Generally speaking, Section 15 of the 1909 Act and Section 25 of the 1919 Act deal with repairs which do not involve reconstruction, but under Section 15 of the 1909 Act the landlord may declare his intention to close the house, and under both sections the Local Authority may be left to carry out the repairs and find difficulty in recovering the cost from an impoverished owner.

Should a house be closed by the declaration of the owner under Section 15 of the 1909 Act the problem of dealing with the tenants immediately arises. Other accommodation is not available, and the Courts in these circumstances will not eject, the result being that the tenants would remain, paying no rent, and the property becoming gradually derelict. Action under Section 17 of the 1909 Act is impracticable for the same reason; a Closing Order may be made, but the tenants would remain. What is therefore left meantime is to take such action under Section 25 of the 1919 Act as will ensure the minimum repairs necessary to keep the property from becoming absolutely uninhabitable, and without reference to structural alterations.

Such action, being without prejudice to any other powers of the Local Authority, would not prejudice subsequent proceedings under Section 17 of the 1909 Act. With respect to properties against which a Closing Order has already been made, with an appeal pending, the position is different. The appeal has been taken on the ground that the house is not in a state dangerous or injurious to health, a process is already in existence which has not been exhausted, and if repairs are called for under Section 25 in these cases a further appeal with the plea *lis pendens* would be an effectual answer.

J. LINDSAY.

City Chambers,
Glasgow, 22nd January, 1921.

HOUSING, TOWN PLANNING, &c., ACT, 1909.

SECTIONS 17 and 18.

Details of the work carried out under the Housing of the Working Classes Act, 1890-1919, during the year ending 31st December, 1920.

119 visits were made during the year, with a view to ascertaining whether any houses within the area of the Local Authority were in a state so dangerous or injurious to health as to be unfit for human habitation.

7 representations were submitted to the Executive Committee.

7 Closing Orders (affecting 49 dwelling-houses) were subsequently served upon the owners of the respective properties.

Of the above representations, 1 was in respect of a back land, containing 16 dwelling-houses, and 6 were with reference to front lands, comprising 33 houses.

Following upon the service of Closing Orders 16 houses have been closed without further action being taken.

6 appeals were lodged against Closing Orders, affecting 55 dwelling-houses.

6 properties have been demolished, affecting 88 dwelling-houses.

When the appeals came before the Court they were continued *sine die*, owing to the scarcity of houses for those who would be dispossessed.

TABULATED STATEMENT OF WORK CARRIED OUT UNDER THE HOUSING, TOWN PLANNING, &C., ACT, 1909, FROM 23RD APRIL, 1913, TILL 31ST DECEMBER, 1920.

Year	Number of Representations	Number of Houses Represented	Number of Houses Closed	Number of Houses Demolished	Number of Houses Remedied
1913, ...	90	591	222	25	30
1914, ...	82	600	127	135	73
1915, ...	149	496	393	158	47
1916, ...	69	329	264	163	27
1917, ...	16	77	44	169	57
1918, ...	55	347	49	22	1
1919, ...	45	328	10	75	14
1920, ...	7	49	16	88	—
Total, ...	513	2,817	1,125	835	249

STATEMENT OF WORK CARRIED OUT UNDER SECTIONS 14 AND 15 OF THE HOUSING, TOWN PLANNING, &C., ACT, 1909, AND SECTION 25 OF THE HOUSING, TOWN PLANNING, &C. (SCOTLAND), ACT, 1919.

2,633 visits were made during the year, and 1,451 complaints were registered, affecting 781 houses, of which 602 were remedied, affecting 407 dwelling-houses.

570 intimation notices and 133 statutory notices were served on the landlords.

In 17 instances where the landlords refused or failed to carry out the necessary work, in terms of the notices served upon them, the requisite work was carried out, in terms of Section 15 (5) of the Housing, Town Planning, &c., Act, 1909, incurring an expenditure of £136 2s. 10½d.—the respective accounts being passed on to the Town-Clerk for recovery of the costs in each case.

INCREASE OF RENT AND MORTGAGE INTEREST (RESTRICTIONS) ACT, 1920.

Under this Act 867 applications for certificates were received between October and the end of the year. Of these 147 were refused and 722 granted. Of those granted 263 were given in respect that the house was not reasonably habitable, and 459 in respect that it was not in a reasonable state of repair. In most of the latter the defects were remedied, and in very few instances were cases taken to Court.

FARMED-OUT HOUSES.

A return made up in April showed that there are 1,577 farmed-out houses on the Register, most of which are of one apartment. These are shown in the following table:—

Size of House	Front Lands	Back Lands	TOTAL
1, ...	1.111	90	1,201
2, ...	322	36	358
3, ...	15	3	18
	1,448	129	1,577
Of which "telescoped,"	337	39	376

SECTION XI.

SUMMARY REPORT OF THE BACTERIOLOGICAL LABORATORY FOR YEAR 1920.

The number of specimens submitted by medical practitioners from suspected cases of diphtheria, enteric fever, and tuberculosis during the year 1920, with respective totals for 1919, were as follows:—

	1920			1919		
	Total	Number +	Per cent. +	Total	Number +	Per cent. +
Diptheria, ...	3,385	865	26	2,405	600	25
Enteric Fever, ...	412	128	31	224	69	31
Tuberculosis, ...	3,272	687	21	2,627	520	20
Total, ...	7,069	1,680	24	5,256	1,189	23

Diphtheria Contacts.

The systematic examination of all persons in more or less intimate contact with cases of diphtheria (begun in March, 1906) was carried out during 1920 in 2,526 contacts, with the result that the bacillus of diphtheria was found in 158, or 6 per cent. A comparison with the year 1919 is added:—

Source	Total	Positive	Percentage Positive
228 Households, ...	718	61	9
2 Schools, ...	286	9	3
4 Dairies and 2 Farms, ...	59	4	7
Hospitals, Reception Houses, &c., ...	1,463	84	6
Totals, ...	2,526	158	6
Repeated Examinations, ...	67	20	29
		1919	
Totals, ...	959	46	5
Repeated Examinations, ...	48	17	35

Tuberculosis Dispensaries.

During the year 1,552 specimens of sputum from patients attending the tuberculosis dispensaries were examined, and the bacillus of tuberculosis was found in 188 of these, or 12 per cent. The comparative figures for the preceding year were 1,740, 245, and 14 per cent.

Ophthalmia Neonatorum.

The examinations of specimens during 1920 are given in the following table, together with comparative figures for the preceding year:—

	1920			1919		
	Total	Positive	Percentage Positive	Total	Positive	Percentage Positive
From Medical Officer of Health,	980	432	44	918	420	46
From Medical Practitioners, ...	7	—	—	19	5	26
	987	432	44	937	425	45

Wassermann Test.

The following statement shows the number of specimens of blood or fluid examined by Wassermann test. Under Section (*d*) the number of examinations for other Local Authorities is given, these being undertaken under special agreement with these Authorities, as they have no laboratory facilities of their own:—

	Total	Positive	Percentage Positive
Specimens received from—			
(*a*) *Practitioners*—			
Original—Blood, ...	1,187	266	22
Cerebro-spinal Fluid,	4	—	—
Duplicate—Blood, ...	215	37	17
Cerebro-spinal Fluid,	4	1	25
(*b*) *Institutions*—			
Original—Blood, ...	2,398	681	28
Cerebro-spinal Fluid,	40	7	18
Duplicate—Blood, ...	219	80	67
Cerebro-spinal Fluid,	14	4	29
(*c*) *Medical Officer of Health*—			
Original—Blood, ...	330	108	33
Cerebro-spinal Fluid,	9	2	22
Duplicate—Blood, ...	120	26	22
Cerebro-spinal Fluid,	6	3	50
(*d*) *14 Other Local Authorities*—			
Original—Blood, ...	205	59	29
Duplicate—Blood, ...	37	13	35
Totals—			
Original—Blood, ...	4,120	1,114	27
Cerebro-spinal Fluid,	53	9	17
Duplicate—Blood, ...	591	156	26
Cerebro-spinal Fluid,	24	8	33
	4,788	1,287	27
		1919	
Totals, ...	2,735	519	19

In 1920 there were 85 specimens and in 1919 there were 31 specimens in which the amount of serum obtainable was insufficient to carry out the test.

Miscellaneous Specimens.

In addition to the specimens tabulated above, 6,440 of a miscellaneous nature (as compared with 5,791 in 1919) were investigated for the Medical Officer of Health, the Veterinary Surgeon, the Baths Department, the Water Department, and medical practitioners in the City. These may be summarised as follows:—

	Health Department	Medical Practitioners
Diphtheria—Swabs, Milk, Virulence Test, ...	172	16
Enteric Fever—Blood, Urine, Fæces, ...	58	28
Tuberculosis—Urine, Smear, ...	25	43
Gonococcal Infections (other than Ophthalmia Neonatorum), ..	182	287
Examination for S. pallida—Exudate, ...	100	22
Cerebro-spinal Fever—Swabs, ...	63	9
Vincent's Angina—Swabs, ...	103	2,948
Bacterial Diagnosis—Blood, Urine, Food-stuffs, Smears. Dust, Water, Calf-lymph, Mud, Fungus, ...	44	79
Forward,	747	3,432

	Health Department	Medical Practitioners
Forward,	747	3,432
Dysentery—Fæces, Urine, ...	111	101
Paratyphoid, ...	—	1
Malaria—Blood Films, ...	55	26
Ringworm—Samples of Hair.	5	2
Anthrax—Shaving Brushes, Feeding Stuffs, ...	37	—
Food-poisoning—Veal, Fæces, ...	2	—
Favus—Mouse, ...	1	—
Insects for Identification, ...	19	—
Soap for Examination, ...	1	—
Agglutination Test—Blood, ...	20	—
Sample of Water, ...	1	11
Bilharziosis—Urine, ...	—	1
Cytological Examination, ...	—	1
Cellular exudate—Blood, ...	—	1
Influenza, ...	—	2
	999	3,578

Hospitals	Belvidere	Ruchill	Knightswood	Shieldhall	Robroyston
Diphtheria—Swabs, ...	10	42	10	102	14
Enteric Fever—Urine, Fæces, Blood, Pus, ...	225	3	2	14	—
Tuberculosis—Milk, Sputum, ...	32	59	27	29	17
Cerebro-spinal Fever—Cultures, ...	23	5	—	—	—
Vincent's Angina—Swabs, ...	8	—	7	3	—
Bacterial Diagnosis—Sputum, Blood,	36	12	—	—	—
Paratyphoid Fever—Blood, ...	5	—	—	—	—
Dysentery—Fæces, ...	3	91	—	—	—
Examination for S. pallida—Exudate,	—	1	—	—	—
Other Examinations, ...	—	—	—	—	291
			1,071		

Veterinary Surgeon—	
Milk from Town Cows with Disease of Udder, ...	173
,, Country ,, ,, ...	51
Tuberculosis—Hospital Milk Supply, ...	433
Food-poisoning—Pie.	1
Baths Department—	
Water for Bacteriological Examination, ...	69
Water Department—	
Samples of Water, ...	65
	792

Examination of Rats in relation to Plague.—During the year 407 rats were brought to the Laboratory and examined for evidence of plague, with negative results.

The following table gives the numbers examined in relation to the places from which they were obtained, and a comparison with last year:—

Year.	From the City	From Shipboard	From Docks	Total	Plague Infected
1920, ...	189	60	158	407	—
1919.	120	46	278	444	—

SECTION XII.

GENERAL SANITATION, INSPECTION OF FOOD, &c., AND AIR PURIFICATION.

DIVISIONAL REPORTS.

Housing.

The reports of the Divisional Inspectors for the year contain many features of interest, from which the following extracts are taken:—

Central Division.—The Divisional Inspector writes:—

> In connection with structural defects in houses I am of opinion that the provisions of the Public Health Act are not taken advantage of to the extent they might be. A great deal of work can be done under this Act more expeditiously than under other statutes.

The following comparison of the time required to obtain a remedy may be made:—

(1) Under the Housing Acts there is first of all an interval of 14 days required to cover the period of a courtesy notice.

(2) Authority must thereafter be obtained to issue a statutory notice, and further delay may arise if authority to carry out the work is also necessary.

Under the Public Health Act the period required by the intimation may be restricted to a day, and the statutory notice need not cover many days before the case is brought into Court. Endeavour was made to illustrate this by action under Section 16 of the Public Health Act with regard to broken plaster and defective woodwork. During the last four months of 1920, 350 defects of a structural character were dealt with, of which 315 were remedied on the issue of the intimation, and only 35 required the issue of a notice under Section 20. In no case was it necessary to take proceedings in Court.

Northern Division.—The Divisional Inspector writes:—

> Owing to the continued scarcity of houses no progress could be made with the closing of uninhabitable houses, but the repair sections of the Housing Act were put into operation. For various reasons little repair to property was done during the war period; a large amount of this work has yet to be overtaken.

Cleansing of Common Stairs, Limewashing of Staircases, &c.

Central Division. — There has been a noticeable improvement in the condition of stairs and closes, to which two factors are contributory—namely, the less frequent change of occupancies owing to the shortage of houses and the greater attention which has been paid to the matter of late.

2,040 notices were issued during the year regarding the limewashing of closes, staircases, &c.

Northern Division.—The Inspector writes:—

> The work of limewashing staircases is being carried out under powers contained in Section 252 of the Police Act, 1866, but the procedure is cumbersome and involves delay. The Section, moreover, is somewhat ambiguous in its terms. When the staircases, &c., are discovered to be in a "filthy condition" (the term used in the Act) the matter is reported to the Corporation before a notice can be served on the owner, and as the work may be begun in the interval between the date of reporting and the date when a notice can be issued, a second inspection is necessary before the notice is served. Were powers similar to those contained in Section 117 of the Burgh Police (Scotland) Act, 1892, obtained, there would be certain advantage, as this section also deals with the cleansing of smaller dwelling-houses. There is a further disadvantage in the lack of specific power in connection with the cleansing of common water-closets, washing-houses, &c.

South-Western Division.—Writing on the subject, the Divisional Inspector says:—

> Where the bye-laws for the cleansing of closes and stairs are strictly enforced and proper supervision is exercised no difficulty is experienced in dealing with this matter. Periodically surveys of the Division are made to ensure that all closes and staircases in need of limewashing are reported to the Corporation, in order that statutory notices may be served. The work in this direction is undergoing improvement.

CLEANSING OF ASHBINS.

Central Division.—The Inspector further reports:—

> During the year a considerable improvement in the condition of the ashbins was observed.

COMMON LODGING-HOUSES.

All places formerly registered as common lodging-houses are still being kept under supervision, as they were formerly, and the bye-laws applied as usual, although for the time being the increase of price has removed them from the definition contained in the Public Health Act.

HOUSES LET-IN-LODGINGS.

South-Western Division.—The Divisional Inspector writes:—

> A good deal of overcrowding exists in houses of a class better than the ticketed house or the house let in lodgings, but on account of the housing shortage practically nothing can be done to reduce the overcrowding.

FARMED-OUT HOUSES.

Central Division.—In this division there are 520 farmed-out houses, and under the provisions of the Confirmation Act, 1918, noticeable improvement has been effected. Strict supervision is maintained, and, compared with the the ordinary tenements of the same class, better sanitary conditions result. There are now no telescope houses occupied by more than one family, while a water supply has been provided in most of the houses separately occupied. Furnishings are gradually being brought up to the standard required by the bye-laws.

Northern Division.—The furnishing of many of these houses falls short of the standard laid down in the new bye-laws which came into operation in May, but it was at first thought inexpedient to enforce the bye-laws immediately, owing to the probable hardship to tenants which might result from increased charges. The bye-laws, however, are now being strictly enforced.

South-Western Division. — In November last a report was submitted showing the extent of the change, due to the housing shortage and other circumstances, which had taken place in the character of the sub-tenants of the farmed-out houses during the preceding three years. The results of the inquiries continue to be recorded, and this aspect of housing will be reported on when observations over an extended period have been completed.

Eastern Division.—The Divisional Inspector writes:—

> A considerable reduction has taken place in the number of farmed-out houses in the Eastern Division. Calton, in January, 1920, had 301 such, whereas in December the number was only 198. Mile-End, with 70 to begin with, had only 43, and in Whitevale, where there were 18 at the beginning of the year, none existed in December. In all 389 as at 1st January had become 241 as at 31st December.

DRAINAGE.

Central Division.—In the Central District of the City an experiment is being made with the introduction of the "one-pipe" method into our drainage system, the Dean of Guild Court having granted permission for the drainage of a non-residential property which will reduce the number of traps present to a minimum.

SCAVENGING.

South-Western Division.—The Divisional Inspector notes a marked improvement in the condition of the back courts. The renewal of ashbins at properties where ashbins were wanting or had become unserviceable during the war period is proceeding as speedily as the supply of new receptacles will permit. In one ward where a special survey was made the ashbin accommodation at 75 per cent. of the properties was more or less unsatisfactory. The portable ashbin has much to commend it, but in lower-class properties this method of storage of domestic refuse leaves much to be desired.

NUISANCES.

The frequency with which choked drains appear in the list of nuisances is made the subject of observation as follows:—

Northern Division.—The Inspector writes:—

The large number of nuisances which arise from year to year from chokage of drains was commented on in last year's report. As was then stated, the greater part of these nuisances is caused by chokage of the traps disconnecting the waste drains from the soil drains. It is of interest to notice that in the housing schemes at present being carried out the practice of trapping the waste drains from the soil drains has been departed from, and the only disconnecting trap in the drainage system of each block of houses is the trap disconnecting the drain from the sewer. This is practically a reversion to the method in vogue about thirty years ago, and will undoubtedly prevent to a large extent nuisances arising from choked drains. This principle of trapping does not comply with our bye-laws, but these might, I think, with advantage be amended.

South-Eastern Division.—The Inspector writes:—

On the evening of 17th and morning of 18th August, owing to a very heavy rainfall, serious floodings and damage to property took place, when the River Cart overflowed its banks, resulting in many houses in the vicinity being flooded to a considerable depth. Two streets particularly—Cartha Street and Woodville Gardens—suffered to a considerable extent. The properties in these streets are of the tenement type, and all the houses on the ground flats were flooded, the water rising to a height of about 2 feet 9 inches above the floor levels. After the water had subsided it was found that there was a considerable deposit of mud on and underneath the floors, which gave rise to an offensive smell, and later the wallpapers which had been damaged by the water began to peel off. The tenants complained to this department, and several of them made application under the Increase of Rent and Mortgage Interest (Restrictions) Act, 1920, for certificates that the houses were not reasonably fit for human habitation. These certificates were granted, but it was pointed out that it would be useless to repaper the walls until they had become thoroughly dry, which time alone would accomplish. The tenants were also advised to pay particular attention to proper airing and firing of their houses. The proprietors and factors were notified to have the offensive mud removed from underneath the floors, while repapering of the walls when dried removed all cause for complaint.

South-Western Division.—The Inspector writes:—

The nuisances dealt with were due in great part to choked traps on drains and choked water-closets used in common, and to defects usually found in house property in urban communities. In one case only was it necessary to institute legal proceedings, and these were successful.

BACK COURTS.

Central Division.—The Inspector draws attention to the need for having all back courts covered with an impervious material. When drains choke the court gets flooded with waste water, and if the surface is unpaved the ground becomes saturated and sour, and during dry hot weather smells offensively. Paved back courts are much more easily kept clean.

WORKSHOPS, BAKEHOUSES, &C.

South-Western Division.—The Divisional Inspector writes:—

The sanitary condition of schools, of such factories where inspection is necessary, and of workshops is good.

RENT (RESTRICTIONS) ACT.

Central Division.—The Inspector writes:—

Under the Rent (Restrictions) Act many certificates were issued, but only in one case in this Division has the certificate been used in Court. The case did not come to proof, but was withdrawn, as the owner carried out the work required.

Northern Division.—The Inspector writes as follows:—

> The coming into operation of this Act threw a considerable volume of work on the staff towards the end of the year.
>
> 277 applications for certificates in terms of Section 2 of the Act were made, and of these 230 were granted and 47 refused. The houses were inspected and reported on, and, where necessary, appropriate action for the repair of the houses was taken. The applications were for the most part made by tenants of small-rented houses. A good deal of misapprehension appears to have arisen with regard to the value of these certificates, and in a great many cases they were taken as being justification for refusing payment of the increase of rent.
>
> In a recent decision Sheriff Blair held that the action of the Local Authority in making application for suspension of the increase of rent was incompetent.

South-Western Division.—In this Division 105 applications were lodged. In 15 the applications were refused; the others were granted.

Rag Flock Act.

Eastern Division.—The Divisional Inspector writes:—

> During the year 30 samples were procured for analysis under the Act. 25 were certified to conform to the Board's standard: 5 were certified not to conform.
>
> The successful carrying out of the duties imposed upon the Local Authority under this Act is at present almost hopeless, owing to the faulty draughtsmanship of the Act itself. It is very difficult to secure a conviction before any Sheriff. One sample, for example, certified to contain 61·3 parts of chlorine per 100,000, when brought to Court, was found "not guilty," the defence being founded on a written warranty as to the purity of the flock. The whole position, however, is being made the subject of a memorandum to the Board, and will be dealt with in subsequent reports.

Details of inspections made and nuisances found are given in Appendix Table XXII.

OPERATIONS UNDER THE SALE OF FOOD AND DRUGS ACTS FOR THE YEAR 1920.

The total number of samples of food, drugs, &c., taken during the year was 5,077, which is equal to almost 5 per 1,000 of the population. Of these 3,963 were taken informally, and 1,114 under the conditions of the Statute, the ratio of the latter to population being approximately 1 per 1,000.

Of 129 statutory samples taken and found not genuine 68 were prosecuted and 55 convicted. The total fines imposed and expenses recovered amounted to £379 12s. 6d. In the cases not prosecuted the degree of departure from the normal was too limited to afford reasonable chance of a conviction.

Under the Margarine Acts 6 prosecutions were undertaken and convictions obtained, the fines amounting to £9 19s. 6d. A provision merchant was fined four guineas for refusing to sell a sample for analysis.

By far the greater proportion of samples taken were of milk, and the following tables show the number of samples taken, the several groups of articles, together with the percentage adulterated in the formal and informal groups, and the proportion contributed by each group to the total samples:—

Abstract of Samples Examined.

Article	Informal		Statutory		Percentage Adulterated		Percentage of Totals	
	Taken	Non-Gen.	Taken	Non-Gen.	Informal	Statutory	Informal	Statutory
Milks, ...	3,295	511	809	99	15·5	12·2	83·1	72·6
Milk Products (Butter, Cheese, &c.), ...	391	46	114	11	11·7	9·6	9·9	10·2
Cereals, ...	4	—	31	—	—	—	—	2·8
Spirituous Liquors, ...	81	5	4	4	6·2	100·0	2·0	—
Drugs, ...	57	15	47	10	26·3	21·3	1·4	4·3
Flavourings & Condiments,	70	6	62	4	8·6	6·5	1·8	5·6
Miscellaneous Foods, ...	65	4	47	1	6·2	2·1	1·6	4·3
	3,963	587	1,114	129	14·8	11·6	100	100

Details of the operations under the Acts are set out in the following table:—

Article	1919 Samples taken Informal	1919 Samples taken Statutory	1920 Samples taken Informal	1920 Samples taken Statutory	Non Genuine Informal	Non Genuine Statutory	Convictions	Withdrawn and Expenses Paid	Withdrawn	Deserted Simpliciter	Dismissed Not Proven
Arrowroot, ...	—	—	—	1	—	—	—	—	—	—	—
Barley, ...	—	—	—	5	—	—	—	—	—	—	—
Beer, ...	11	12	1	—	—	—	—	—	—	—	—
Brandy, ...	6	2	1	—	—	—	—	—	—	—	—
Butter (*), ...	73	38	375	112	40	10	8	1	—	—	—
Buttermilk, ...	—	—	10	1	6	1	—	—	—	1	—
Cheese, ...	—	—	3	—	—	—	—	—	—	—	—
Chicory, ...	9	—	—	—	—	—	—	—	—	—	—
Cinnamon, Ground, ...	3	16	22	11	3	2	—	—	—	—	—
Cocoa, ...	—	1	—	—	—	—	—	—	—	—	—
Coffee, ...	5	15	43	8	—	—	—	—	—	—	—
Cooking Fat, ...	—	1	—	—	—	—	—	—	—	—	—
Confectionery, ...	—	—	5	—	—	—	—	—	—	—	—
Cornflour, ...	—	—	—	2	—	—	—	—	—	—	—
Cream, ...	—	—	—	1	—	—	—	—	—	—	—
Cream of Tartar, ...	5	18	17	30	9	8	—	—	—	—	1
Dried Eggs, ...	—	2	—	—	—	—	—	—	—	—	—
Dripping, ...	—	5	1	8	—	1	—	—	—	—	—
Egg Yolk, ...	—	—	2	—	—	—	—	—	—	—	—
Flour, ...	—	3	—	3	—	—	—	—	—	—	—
,, (Self-raising), ...	—	10	—	7	—	—	—	—	—	—	—
Ginger, Ground, ...	—	16	5	2	—	—	—	—	—	—	—
Honey, ...	2	—	—	—	—	—	—	—	—	—	—
Jam, ...	2	—	—	—	—	—	—	—	—	—	—
Lard, ...	3	—	10	21	3	—	—	—	—	—	—
Linseed (Crushed), ...	—	18	1	2	—	—	—	—	—	—	—
Lime Juice, ...	—	10	—	—	—	—	—	—	—	—	—
Malt Extract, with C.L. Oil,	—	—	1	—	1	—	—	—	—	—	—
Margarine (†), ...	—	—	2	8	—	—	7	—	—	—	—
Milk Powder, ...	—	—	3	—	—	—	—	—	—	—	—
,, Condensed, ...	—	1	1	1	1	—	—	—	—	—	—
,, Skimmed, ...	1	—	2	2	—	1	—	—	—	—	—
,, Sweet (‡), ...	2,915	876	3,292	806	510	98	39	6	—	3	6
Mustard, ...	—	2	8	14	—	—	—	—	—	—	—
Oatmeal, ...	1	6	—	3	—	—	—	—	—	—	—
Oil, Almond, ...	—	—	1	1	—	—	—	—	—	—	—
,, Camphorated (§), ...	—	6	17	8	5	2	1	—	—	—	1
,, Olive, ...	8	4	17	5	—	—	—	—	—	—	—
Pepper, Black, ...	—	27	18	18	3	2	—	—	—	—	—
,, White, ...	—	—	17	17	—	—	—	—	—	—	—
Rice, ...	—	10	4	7	—	—	—	—	—	—	
Rum, ...	—	8	2	—	—	—	—	—	—	—	—
Semolina, ...	—	—	—	1	—	—	—	—	—	—	—
Stout, ...	1	—	1	—	—	—	—	—	—	—	—
Tapioca, ...	—	6	—	2	—	—	—	—	—	—	—
Tartaric Acid, ...	—	4	2	1	—	—	—	—	—	—	—
Tartar Substitute, ...	4	—	1	—	1	—	—	—	—	—	—
Tea, ...	—	—	1	—	—	—	—	—	—	—	—
Tincture of Quinine, ...	—	—	1	—	—	—	—	—	—	—	—
Vinegar, ...	—	—	—	2	—	—	—	—	—	—	—
Whisky, ...	6	127	75	4	5	4	—	—	—	1	—
Wine, ...	—	—	1	—	—	—	—	—	—	—	—
Totals, ...	3,055	1,244	3,963	1,114	587	129	55	7	—	5	8

(*) Fines, £78 10s.; Expenses, £1 11s. 6d.

(†) ,, £14 3s. 6d.

(‡) Fines, £285 18s.; Expenses, £10 10s.

(§) ,, £3 3s.

The following cases dealt with during the year are of interest:—

(1) *Milk.*—In a charge against a Sanquhar farmer of having forwarded sweet milk to a City wholesale dealer which was alleged to be 2 per cent. deficient in milk-fat and 11 per cent. deficient in milk-solids other than milk-fat, the Stipendiary Magistrate, in giving judgment, said he had to consider whether he was entitled to disbelieve the evidence adduced by the defence as to the genuineness of the milk, and which had not been materially shaken in cross-examination. *The proportion of fatty and non-fatty solids in milk were both uncertain quantities*, and only inferred certain things in a general way, but could not be considered positive. In the whole circumstances he thought he was justified in finding the charge not proven.

(2) *Milk.*—In a charge against a Thornhill farmer, in which a deficiency of 8 per cent. in milk-fat was averred, the Stipendiary, in dismissing the complaint, said that in this case there was a narrow margin as regards alleged deficiency in fat, and a body of credible evidence that the milk had not been tampered with had been submitted. The farmer alleged that the milk was as it came from the cow, and a veterinary surgeon of considerable experience in cows and the testing of milk had been examined in support of the contention.

(3) *Milk.*—In samples procured from a New Kilpatrick farmer, in which the delivery consisted of "cold" sweet milk and "warm" sweet milk, and so described in writing in accompanying warranty line, the former was found to be 13 per cent. deficient in milk-fat and the latter genuine. The deficiency suggested tampering, but the Stipendiary Magistrate held that the respondent was entitled to the resultant analyses of the milk as a whole, and that to distinguish between the "cold" and the "warm" in respect of sampling, and conclusions to be drawn therefrom, in what he held was one consignment, was erroneous.

(4) *Milk.*—In another case, where the milk was alleged to contain 7 per cent. of added water, the respondent's agent stated that the bottle containing the portion of sample left with his client had burst, that the reserve portion was remitted to the Government Laboratories, and that the analysis showed that the sample had undergone considerable decomposition with the production of a large quantity of butyric acid. The Government Analysts were therefore not able to arrive at the composition of the original sample from the results obtained, and were unable to say whether the sample did or did not contain added water. In the subsequent proof it was contended for the respondent (1) that the absence of confirmation by the Government Analysts negatived any presumption of added water; (2) that the accidental loss of respondent's portion of the sample must be reckoned with in the defence, since the prosecution's claim to a conviction rested on only one portion out of three; and (3) that the vague terms of the Statutes relative to the effect of the local analyst's certificate when unsupported by the Government analysis are insufficient to warrant a conviction under such special circumstances as occur in the case. The Stipendiary Magistrate, in finding the charge not proven, said:—"Important principles of interpretation are involved, and there is no authoritative precedent. It seems to me that in the peculiar conditions of the case the Act does not make the certificate by the Public Analyst conclusive, and that the analysis by the Government Chemists was a sort of appeal which did not confirm the inference of added water." An appeal by way of a stated case was made to the High Court of Justiciary. The Court sustained the appeal, and found the appellant entitled to ten guineas of expenses, holding that the certificate of the Public Analyst, in the absence of any evidence led in exculpation, was sufficient proof of the quality of the milk, and that in this case there ought to have been a conviction.

(5) *Buttermilk.*—A farmer was charged with selling buttermilk alleged to be not genuine in respect that it contained only 4·98 per cent. of milk-solids other than milk-fat, whereas genuine buttermilk should contain at least 6·09 per cent. of milk-solids other than milk-fat. This assumed minimum was based on an assumed limit of an addition of 30 per cent. of water to milk in the process of churning. In Warnock *v.* Johnstone (1881), 4 Coup. 509, an addition of 30 per cent. of water was held not to be excessive. A plea of "not guilty" was tendered by respondent, and a diet of proof fixed. While the case was pending a similar charge was disposed of by Sheriff-Substitute J. D. Mackenzie, in which, after a lengthy review of the Warnock case, he held that:—"On the whole matter I am not satisfied that the Act applies to this case, or that, if it does, a standard has been set up beyond which added water becomes avoidable, and to which the practice of farmers and dairymen must necessarily conform. The result is that I find the respondent not guilty." In the circumstances it was deemed inexpedient to proceed with the proposed diet of proof, and the charge was withdrawn. Representation was subsequently made to the Inter-Departmental Committee on the Law and Regulations governing the Sale of Milk in Scotland, with a view to their considering, as part of their remit, the desirability of establishing, if possible, a standard in respect of buttermilk. In reply it was stated that a sub-committee had been appointed to inquire into and report on the subject, and that the matter would be dealt with in the general report of the Inter-Departmental Committee.

(6) *Extract of Malt with Cod Liver Oil.*—A sample informally obtained was found to contain only 2·82 per cent. of cod liver oil, whereas in the B.P. Codex 15 per cent of cod liver oil is required. After consideration, the Health Committee agreed that formal representation should be made to the Scottish Board of Health requesting such steps to be taken as may be necessary to fix a standard.

The need for obligatory limits in order to facilitate proceedings in the administration of these Acts continues, and the suggestions made from time to time in this respect may be summarised as follows:—

(1) The consolidation of the various Food and Drugs Acts and Orders in one general statute.

(2) The establishment of a Court of Reference empowered to set up standards in regard to the composition of food-stuffs or of any article which ordinarily enters into their composition, including flavouring matter and condiments.

(3) The issue of Statutory Orders embodying these findings.

(4) The putting into operation of the Milk and Dairies (Scotland) Act, 1914, postponed owing to the war.

(5) The giving effect to the recommendations of the Departmental Committee on Use of Preservatives and Colouring Matter in Foods (1901).

Butter and Margarine Acts.—During 1920, 3 applications for registration of premises to be used for wholesale dealing in margarine were received, and, as the premises upon inspection were found to conform to the requirements, the applications were granted. The number and nature of premises on the Register at the end of the year were as follows:—Manufactories of margarine, 1; wholesale dealers in margarine, 209; wholesale dealers in milk-blended butter, 9; and butter factories, 14. Butter factories—*i.e.*, any place in which butter is reworked or blended by way of trade, but so as not to cease to be butter—have been for long practically out of action owing to the effects of control. Several have again resumed operations.

Fertilisers and Feeding-Stuffs Act, 1906. — No formal application for the taking of samples under the Act was received during 1920. 8 samples of feeding-stuffs in general use were informally procured and examined. Two dealers were warned in respect of failure to state on the invoice the percentage of oil and albuminoids contained in any compound of feeding-stuff, as required by the Act.

Sample No. 162 was found to contain less than the permissible minimum of oil, while sample No. 168 was ·28 per cent. and ·35 per cent. below the permissible minimum in oil and albuminoids respectively. With these exceptions all were found conform to prescribed parts of invoice.

Food Inspection.—Systematic inspection of markets, shops, and stores was maintained throughout the year, and 11,261 inspections in all were made for the detection of unsound or unwholesome food. The number of lots found unsound and condemned was 108. The total weight of food-stuffs so disposed of as to preclude their use for human food was 51 tons 18 cwts. 1 qr. 20 lbs., exclusive of 510 eggs. As far as practicable such food-stuffs are disposed of for animal or poultry feeding or for industrial purposes.

The Sale of Horse Flesh, &c., Regulation Act, 1889.—The number of premises registered has been reduced to 4, compared with 13 in 1918.

Dairies.—1,308 dairies were on the register at the end of the year, compared with 1,287 in 1919. 18,101 inspections were made, and 102 notices issued in respect of minor breaches of the law, while in 56 instances repairs or improvements were effected.

Byres.—The steady decrease in the number of City byres continues. The number now within the City area is 51, compared with 61 in 1919 and 70 in 1918. The byres which are without grazing facilities now number only 8. 628 inspections of these premises were made under the Cattle Sheds in Burghs (Scotland) Act, 1866, and 25 notices of minor contraventions served upon licence-holders, which were complied with. The average number of cows kept was 756, compared with 836 in 1919.

Details of City Byres as at 31st December, 1920.

	Grazing			Stall-Fed		
Cubic space per Cow	No. of Byres	No. of Cows licenced for	Average No. kept	No. of Byres	No. of Cows licensed for	Average No. kept
At 600 cubic feet,	39	798	625	5	78	57
At 800 ,,	4	50	22	3	82	52
Totals, ...	43	848	647	8	160	109

Ice-Cream Shops.—These premises, in terms of the Glasgow Corporation and Police Act, 1895, are embraced in the term "milk purveyor," and the Regulations under the Dairies and Milkshop Orders are applicable thereto. At the end of the year there were 637 on the Register—an increase of 17 over the previous year. Inspections numbered 9,579, and 101 minor contraventions of the Regulations were noted by the Inspectors and intimated to occupiers. In one instance proceedings were instituted in respect of the use of premises as a sleeping apartment, and a fine of £2 imposed. 33 notices were issued in regard to repairs and improvements, and duly complied with.

AIR PURIFICATION.

Improvement continues to be made in the reduction of smoke from industrial chimneys, notwithstanding that 1920 was an abnormal year, on account of the marketable coal being mostly of inferior quality. Inferior coal affects steam raising in two ways. The excessive amount of ash it contains tends to clog the fire-grates and to reduce the air supply below that essential for good combustion, and its lower calorific value makes it more difficult to obtain the steam required without poking and stirring the fires. In both cases smoke in excessive quantities is more readily produced.

In the 42 prosecutions taken against offenders during the year a conviction was obtained in each case. Of these 31 were first offences, 8 were second offences, 2 were third offences, and 1 was a fourth offence within the preceding twelve months, and the fines imposed averaged 21s. 10d., 52s. 8d., 52s. 6d., and 42s. respectively, while the imposable penalties under the Act are for the first offence 40s., and for second or subsequent offences £5.

Special attention was given during the year to smoke from tar melters operating on the streets. Five users of these appliances were prosecuted and fined for excessive smoke production through the careless use of bituminous fuel, which action, in conjunction with that taken by the Sub-Committee on Air Purification in calling special attention to this form of nuisance, was responsible for an increased use of coke as fuel and a consequent reduction in the density of the smoke produced.

Considerable attention was devoted to steam motor lorries. These vehicles have been gradually increasing in number, and the nuisance created by them when burning ordinary coal adds greatly to the pollution of the atmosphere. Warning letters were sent to those who, by the smoke produced, showed they were burning fuel of a bituminous nature, intimating that the use of such fuel was not making reasonable effort to comply with the requirements of the Glasgow Police (Further Powers) Act. This was followed by prosecution in one instance, and the publicity given to the conviction resulted in a reduction of smoke from these lorries thereafter.

Fifty-two structural improvements to furnace plant were recorded during the year, most of which were of a substantial nature, and all of which contributed to the reduction of smoke from the furnaces affected. A noteworthy improvement refers to furnaces for the heating of iron and steel, where, by the substitution of gas supplied by the Corporation for ordinary coal and the reconstruction of the furnaces to suit the former fuel, smoke was entirely abolished, with resultant economy. Equally good results have been obtained in several instances by the substitution of gas for coal in biscuit-baking ovens.

A hitherto unrecorded improvement affecting a large steel works in the east end of the City might with advantage be mentioned here. In the works referred to 500 tons of coal are used daily, and is divided into two portions, one of which is gasified, washed of all its smoke-producing ingredients, and utilised for heating iron and steel in furnaces of various kinds, and for the production of power in large gas engines, while the other portion is burned in its solid form in mechanically stoked furnaces of steam boilers. Other improvements include the installation of electric motors energised from the Corporation Electricity Works for the production of power, rendering in some cases the steam boilers unnecessary, and in others reducing the load on the boilers, while retaining them for heating purposes. In a number of instances anthracite and coke have replaced ordinary coal with good effect, while eight steam boilers formerly hand fired have been fitted with mechanical stokers.

Improvements such as these are gradually reducing the amount of smoke from industrial chimneys, thus effecting considerable improvement in the atmosphere in the vicinity of the works where they have been effected. There still remain, however, a large number of coal-fired furnaces where it is essential to have skilled hand firing, and, recognising this fact, the Glasgow and West of Scotland Branch of the Smoke Abatement League of Great Britain, at the expressed desire of the Sub-Committee on Air Purification, reopened a class last winter in Tureen Street Public School for instruction in the principles of coal combustion and furnace management. The subject was fully dealt with in a series of 11 weekly lectures. 60 firemen enrolled as students, and the average attendance for the session was 84·8 per cent. 36 attended the full number of lectures.

The inter-city scheme of soot collection by means of rain-deposit gauges inaugurated in 1914 still continues. In Glasgow there are 9 such gauges, the contents of which are collected monthly and sent to the Corporation Chemist for analysis, and the detailed information, along with that from other centres, is published periodically by the Advisory Committee on Atmospheric Pollution, London. The following table gives the soot deposited during the summer and winter periods of the year ending March, and the totals recorded in preceding years:—

COMPARISON OF MEAN MONTHLY DEPOSITS FOR SUMMER AND WINTER MONTHS OF THE YEAR 1919-20, WITH COMPARATIVE TOTAL DEPOSITS FOR THE PREVIOUS FOUR YEARS.

METRIC TONS PER SQUARE KILOMETRE

Station		Rain-fall in milli-metres	Insoluble Matter			Soluble Matter		Total Solids	Included in Soluble Matter			Total Solids 1918-19	Total Solids 1917-18	Total Solids 1916-17
			Tar	Carbon-aceous, other than tar	Ash	Loss on ignition	Ash		Sulphate as (SO_3)	Chlo-rine (Cl)	Am-monia (NH_3)			
Alexandra Park, ...	Apl.-Sept.	46	0·05	1·27	3·13	1·42	2·67	8·53	1·50	0·41	0·10	10·26	12·36	14·15
	Oct.-Mch.	81	0·05	1·19	2·65	2·84	3·92	10·65	1·92	1·14	0·12	13·10	14·75	13·06
Bellahouston Park,...	Apl.-Sept.	45	0·08	1·49	2·43	1·05	3·17	8·26	1·45	0·26	0·06	9·52	13·21	8·16
	Oct.-Mch.	88	0·05	0·88	1·67	2·62	4·27	9·49	1·89	1·49	0·06	13·75	12·79	11·57
Blythswood Square,	Apl.-Sept.	56	0·10	1·79	4·06	2·01	3·10	11·06	1·62	0·28	0·14	8·97	17·70	19·25
	Oct.-Mch.	96	0·08	1·10	2·85	3·12	4·64	11·79	2·12	1·44	0·14	15·67	14·63	13·76
Botanic Gardens, ...	Apl.-Sept.	53	0·05	1·31	3·25	1·81	3·86	10·28	1·89	0·22	0·06	12·48	13·84	10·38
	Oct.-Mch.	97	0·07	1·30	2·52	2·97	4·68	11·54	2·49	1·13	0·12	20·74	14·83	18·74
Queen's Park, ...	Apl.-Sept.	52	0·03	1·11	2·57	1·08	3·46	8·28	1·52	0·19	0·06	10·64	14·06	7·93
	Oct.-Mch.	101	0·06	0·76	1·62	1·86	3·45	7·74	1·72	1·15	0·08	12·90	17·14	9·55
Richmond Park, ...	Apl.-Sept.	49	0·06	2·06	3·62	1·85	4·03	11·82	1·80	0·31	0·10	10·02	13·98	10·48
	Oct.-Mch.	102	0·09	1·42	3·65	2·76	4·54	12·47	2·28	1·22	0·33	11·56	15·06	11·77
Ruchill Park, ...	Apl.-Sept.	58	0·05	1·38	3·29	1·31	3·15	9·19	1·57	0·23	0·08	10·07	10·67	10·42
	Oct.-Mch.	97	0·07	1·39	2·39	2·54	3·56	9·95	2·34	1·11	0·12	12·33	13·08	13·02
Tollcross Park, ...	Apl.-Sept.	55	0·09	2·00	4·38	1·54	4·04	12·05	1·93	0·23	0·08	12·45	15·73	11·46
	Oct.-Mch.	97	0·10	1·43	3·26	2·45	4·16	11·40	2·44	1·09	0·11	13·27	16·54	11·56
Victoria Park, ...	Apl.-Sept.	54	0·04	1·21	3·15	1·77	4·01	10·18	2·29	0·23	0·11	10·18	10·98	9·12
	Oct.-Mch.	96	0·11	1·12	1·95	2·95	4·49	10·61	1·95	1·30	0·12	15·71	15·28	11·28
Mean for all Stations,	1919-1920,	73	0·07	1·34	2·91	2·11	3·84	10·27	1·93	0·75	0·11	—	—	—
,, ,,	1918-1919,	69	0·11	1·79	3·65	2·43	4·44	12·43	2·47	0·31	0·13	—	—	—
,, ,,	1917-1918,	78	0·23	1·92	4·92	2·32	4·87	14·26	2·69	0·29	0·15	—	—	—
,, ,,	1916-1917,	93	0·15	1·82	3·27	3·16	5·42	13·82	3·08	0·41	0·18	—	—	—
,, ,,	1915-1916,	72	0·24	1·64	2·90	3·47	5·06	13·31	2·98	0·73	0·15	—	—	—

A. K. CHALMERS,
Medical Officer of Health.

PUBLIC HEALTH DEPARTMENT,
SANITARY CHAMBERS,
GLASGOW, *6th August*, 1921.

APPENDIX.

TABLE I.—GLASGOW, 1920.—INHABITED HOUSES AND POPULATION FOR EACH MUNICIPAL WARD.

NICIPAL WARDS.	Inhabited Houses.				Population.				Persons per acre 1920.
	1919.	1920.	Decrease.	Increase.	1919.	1920.	Decrease.	Increase.	
almarnock, -	12,221	12.228	...	7	57,182	57,208	. .	26	105
alton, -	8,349	8,371	...	22	37,989	38,089	...	100	129
ile-end. -	10,681	10,728	...	47	50,010	50,227	...	217	98
hitevale, -	7,321	7,330	...	9	34,242	34,279	...	37	114
ennistoun. -	9,311	9,327	...	16	40,432	40,500	...	68	58
pringburn, -	10,711	10,727	...	16	50,561	50,635	...	74	34
owlairs, -	7,238	7,240	...	2	34.101	34,110	...	9	36
ownhead, -	8,340	8,386	...	46	39,347	39,560	...	213	158
lackfriars, -	4,401	4,419	...	18	21,212	21,300	...	88	178
xchange, -	307	310	...	3	1,599	1,615	...	16	18
lythswood, -	463	465	...	2	2,487	2,497	...	10	36
roomielaw, -	1,355	1,359	...	4	7,005	7.026	...	21	91
nderston, -	6,432	6,442	...	10	29,701	29,748	...	47	71
andyford, -	5,311	5,327	...	16	24,976	25.052	...	76	191
ark, -	5,203	5,215	...	12	24,375	24,432	...	57	77
owcaddens, -	8,210	8,284	...	74	38,211	38,554	...	343	244
oodside, -	10,196	10,207	...	11	45,518	45,567	...	49	160
utchesontown, -	9,477	9,482	...	5	43.393	43,415	...	22	204
orbals, -	7,632	7,643	...	11	36,676	36,738	...	62	164
ingston, -	7,462	7,470	...	8	35,343	35,382	...	39	89
ovanhill, -	8,694	8,698	...	4	39,355	39,373	...	18	88
angside, -	10,603	10,610	...	7	43,587	43,615	...	28	52
ollokshields, -	4,090	4,086	4	...	19,177	19,158	19	...	12
elvinside, -	5,125	5,137	...	12	22,615	22,669	..	54	25
aryhill, -	9,920	9,922	...	2	45,475	45,484	...	9	39
inning Park, -	2,842	2,843	...	1	13,683	13,687	...	4	127
nstitutions, -	...	...	...	...	24,862	23,534	1,328	...	...
hipping, -	...	...	...	...	1,064	1,064	...	...	...
ld Area, -	181,895	182,256	...	361	864,178	864,518	...	340	67
lantation, -	6,679	6,683	...	4	30,661	30.681	...	20	95
brox, -	4.610	4,613	...	3	22,028	22,043	...	15	69
ovan (Central),	4,796	4,797	...	1	23,819	23,824	...	5	82
airfield, -	4,668	4,668	...	...	21,795	21,795	...	...	21
Partick (East), -	5,120	5,123	...	3	23,749	23,763	...	14	157
„ (Central),	6,501	6,504	...	3	29,123	29,132	...	9	103
„ (West), -	4,905	4,907	...	2	23,201	23,211	...	10	41
Jordanhill, -	3,120	3.123	...	3	14,974	14,989	...	15	14
Pollokshaws, -	3,156	3,159	...	3	14,123	14,136	...	13	59
athcart, -	3,413	3,416	...	3	15,076	15,089	...	13	20
hettleston and Tollcross, -	5,786	5,785	1	...	27,542	27,537	5	...	26
Institutions, -	...	...	...	...	3,744	3,869	...	125	...
hipping, -	...	...	...	...	643	643	...	...	...
ed Areas, -	52.754	52,778	...	24	250,478	250.712	...	234	40
ter Glasgow, -	234,649	235,034	...	385	1,114,656	1,115,230	...	574	58

TABLE II.—GLASGOW.—LININGS GRANTED BY DEAN OF GUILD COURT IN YEARS FROM 1914 TO 1920 IN RESPECT OF HOUSES.

Year ending 31st August.	No. of Apartments.						Total.
	1.	2.	3.	4.	5.	6.	
1914, ...	15	108	116	25	46	63	373
1915, ...	63	156	120	32	35	48	454
1916, ...	1	...	2	...	12	1	16
1917, ...	...	...	...	...	...	...	...
1918, ...	...	64	28	...	...	...	92
1919, ...	...	...	144	78	...	...	222
1920, ...	...	12	1,239	414	214	57	1,936

TABLE III.—ABSTRACT OF METEOROLOGICAL OBSERVATIONS TAKEN AT GLASGOW OBSERVATORY.

Months. 1920.	Temperature *				Rainfall. *		
	Highest Temperature in Shade.	Lowest Temperature in Shade.	Mean Temperature for Month.	Departure from Average of 52 Years.	No. of Days it fell.	Amount Collected, in inches.	Departure from average of 52 Years.
January, ...	54	28	39·2	+ 0·6	25	5·13	+ 1·86
February, ...	54	32	42·7	+ 3·6	20	5·27	+ 2·39
March, ...	51	28	43·0	+ 2·4	22	3·56	+ 0.89
April, ...	56	31	44·4	- 0·6	21	1·98	- 0·10
May, ...	72	35	50·8	+ 0·5	21	4·52	+ 1·93
June, ...	75	43	56·8	+ 1·0	12	2·33	- 0·19
July, ...	68	45	55·7	- 2·3	26	3·41	+ 0·32
August, ...	69	42	55·7	- 1·4	15	5·49	+ 1·58
September, ...	64	36	53·7	+ 0·2	20	2·64	- 0·34
October, ...	61	32	49·6	+ 2·2	10	1·73	- 1·67
November, ...	56	26	46·3	+ 3·7	18	3·91	+ 0·27
December, ...	53	27	39·9	+ 0·4	20	3·91	- 0·24
Total, ...	75	26	48·1	+ 0·9	230	43·88	+ 6·70
1914, ...	...	...	...	...	214	36·24	- 4·16
1915, ...	...	...	...	...	192	30·49	- 7·85
1916, ...	...	...	..	...	236	44·61	+ 6·27
1917, ...	...	..	...	...	215	36·67	- 1·67
1918, ...	...	...	...	...	234	41·18	+ 2·92
1919, ...	...	...	...	...	202	31·14	- 7·18

* "The averages for Temperature and Rainfall referred to in the statistics for individual stations are in general for the 35 year period 1881-1915."

(Note by Meteorological Office published with Tables from which above figures have been extracted.)

TABLE IV.—GLASGOW.—BIRTHS AND BIRTH-RATES *per Million* IN EACH WARD, EXCLUSIVE OF INSTITUTIONS AND HARBOUR, FOR THE YEAR 1920, AND RATES FOR SEVERAL PERIODS SINCE 1903.

MUNICIPAL WARDS.	Average Annual Birth-Rate per Million.					Births.
	1903-1905	1906-1910	1911-1915	1916-1920	1920.	1920.
1. Dalmarnock, -	40,769	38,122	35,119	30,671	37,565	2,149
2. Calton, - -	33,346	32,336	30,605	27,770	36,914	1,406
3. Mile-end, -	40,882	39,650	35,866	29,860	36,435	1,830
4. Whitevale, -	32,865	32,538	30,687	26,939	35,532	1,218
5. Dennistoun, -	29,429	26,134	23,825	18,991	22,099	895
6. Springburn, -	41,299	38,617	34,924	29,389	35,766	1,811
7. Cowlairs, -	36,296	32,816	30,405	26,507	32,718	1,116
8. Townhead, -	31,870	30,803	26.270	23,869	29.980	1,186
9. Blackfriars, -	32,493	31,450	29.985	24.849	32.160	685
10. Exchange, -	19,888	19,439	17,144	14,621	18,576	30
11. Blythswood, -	10,183	10,775	10,042	14,599	17,621	44
12. Broomielaw, -	30,720	30,295	28,968	27,806	37,575	264
13. Anderston, -	33.420	32,249	30,764	28,808	34,389	1,023
14. Sandyford, -	23.944	22,890	22,019	22,068	28.660	718
15. Park, - -	12,076	10,403	8,997	12,419	16,986	415
16. Cowcaddens, -	33,906	31,028	30.053	20,091	35,301	1.361
17. Woodside, -	32,086	29,495	26,015	23,126	29.254	1,333
18. Hutchesontown,	39,289	37,788	34,743	29,676	36,255	1,574
19. Gorbals, - -	28,688	27,535	25,811	23,089	28,690	1,054
20. Kingston. -	30,282	28,771	26,720	24,437	31,315	1,108
21. Govanhill, -	36,330	32,761	30,071	24,331	29,538	1.163
22. Langside, -	20,480	20,255	18,730	15,103	18.801	820
23. Pollokshields, -	10,522	8,694	9,631	8,375	10,387	199
24. Kelvinside, -	12,090	11,431	12,866	11,350	12,925	293
25. Maryhill, -	40,471	34,845	31,013	24,804	29,945	1,362
26. Kinning Park,-	—	35,447	34,502	30,074	37,408	512
Institutions, &c.,	—	—	—	—	—	53
Old Area, -	31,426	29,211	27,160	23,710	29,637	25,622
27. Plantation, -	—	—	29,523	27,381	31,974	981
28. Ibrox, - -	—	—	31,791	29,666	34,024	750
29. Govan (Central),	—	—	35,295	31,822	34,839	830
30. Fairfield,- -	—	—	31,519	27,200	26,612	580
31. Partick (East),	—	—	21,648	22,899	24,492	582
32. ,, (Central),	—	—	31.603	27,323	28,834	840
33. ,, (West),	—	—	28,061	24,145	25.979	603
34. Jordanhill, -	—	—	23,745	18,842	21.549	323
35. Pollokshaws, -	—	—	27,814	21,918	27,518	389
36. Cathcart,- -	-	—	20.333	16,471	17,828	269
37. Shettleston and Tollcross, -	—	—	31,800	27,529	31,303	862
Institutions, &c.,	-	—	—	—	—	—
Added Area, -	—	—	28,476	25,035	27,956	7,009
Greater Glasgow,	—	—	27,364	24,009	29,259	32,631

TABLE V.—Glasgow.—ILLEGITIMATE BIRTHS and PERCENTAGE of TOTAL BIRTHS in each Municipal Ward, 1918-1920.

Municipal Wards.	Illegitimate Births.			Percentage of Total Births.		
	1918.	1919.	1920.	1918.	1919.	1920.
1. Dalmarnock, ...	104	127	141	6·7	6·7	6·7
2. Calton, ...	97	110	142	11·2	10·1	10·1
3. Mile-end, ...	102	96	107	7·5	6·9	5·8
4. Whitevale, ...	72	75	85	9·4	8·2	7·0
5. Dennistoun, ...	33	35	40	4·9	5·5	4·5
6. Springburn, ...	83	80	78	6·0	6·1	4·4
7. Cowlairs, ...	41	43	66	5·4	4·8	5·9
8. Townhead, ...	108	104	99	13·4	11·0	8·3
9. Blackfriars, ...	66	75	84	14·8	13·9	12·3
10. Exchange, ...	5	7	5	27·7	30·4	16·7
11. Blythswood, ...	13	9	20	42·0	24·3	45·5
12. Broomielaw, ...	17	32	20	10·0	17·1	7·6
13. Anderston, ...	65	71	74	8·6	8·5	7·2
14. Sandyford, ...	58	60	64	12·0	11·4	8·9
15. Park, ...	37	27	39	12·8	9·2	9·4
16. Cowcaddens, ...	123	118	156	15·1	12·0	11·5
17. Woodside, ...	89	69	99	9·3	6·8	7·4
18. Hutchesontown, ...	75	80	111	7·0	6·4	7·1
19. Gorbals, ...	79	69	105	10·7	8·6	10·0
20. Kingston, ...	85	92	108	11·1	10·9	9·8
21. Govanhill, ...	51	54	54	6·3	5·8	4·5
22. Langside, ...	22	28	28	4·1	4·7	3·4
23. Pollokshields, ...	7	11	8	4·4	6·6	4·0
24. Kelvinside, ...	10	13	14	3·8	5·4	4·8
25. Maryhill, ...	86	74	64	8·9	6·8	4·7
26. Kinning Park, ...	29	31	34	8·3	7·6	6·6
Institutions and Harbour, ...	32	21	31	...	...	...
Old City, ...	1,589	1,611	1,876	8·9	5·9	7·3
27. Plantation, ...	65	65	72	8·4	8·2	7·3
28. Ibrox, ...	37	26	39	6·3	4·1	5·2
29. Govan (Central), ...	39	28	39	5·9	3·6	4·7
30. Fairfield, ...	20	28	23	3·6	4·6	4·0
31. Partick (East), ...	33	34	39	7·2	6·8	6·7
32. Partick (Central), ...	35	43	32	4·8	5·6	3·8
33. Partick (West), ...	25	26	17	4·6	4·8	2·8
34. Jordanhill, ...	13	7	14	5·2	3·0	4·3
35. Pollokshaws, ...	17	21	10	6·1	6·8	2·6
36. Cathcart, ...	11	4	7	5·2	1·7	2·6
37. Shettleston and Tollcross, ...	28	37	38	4·2	4·8	4·4
Institutions and Harbour, ...	...	...	...	...	...	...
Total, Annexed Areas,	323	319	330	5·6	5·2	4·7
Total, Greater Glasgow,	1,912	1,930	2,206	8·1	7·5	6·8

TABLE VI.—GLASGOW.—DEATHS AND DEATH-RATES *per Million* IN EACH MUNICIPAL WARD, FOR THE YEAR 1920, AND RATES FOR SEVERAL PERIODS SINCE 1903.

MUNICIPAL WARDS.	Average Annual Death-rate per Million.					Deaths.
	1903-1905	1906-1910	1911-1915	1916-1920	1920	1920
1. Dalmarnock, -	19,752	20,010	17,659	15,588	14,071	805
2. Calton, - -	22,477	22,003	21,502	17,618	16.934	645
3. Mile-end, -	21,752	20,246	19,695	16.349	16.664	837
4. Whitevale, -	19,631	18,715	19,362	16,434	15,286	524
5. Dennistoun, -	12,833	12,227	11,029	11,331	11,432	463
6. Springburn, -	18,331	17,167	16,572	14,235	13,094	663
7. Cowlairs, -	15,880	14,929	14,737	13,440	12,959	442
8. Townhead, -	18,486	18,104	17,411	15,885	15,039	591
9. Blackfriars, -	21,711	21,355	20,923	18.902	19.483	415
10. Exchange, -	18,066	16,677	16,880	14,496	11,765	19
11. Blythswood, -	13,928	11,030	12,493	11,337	11.213	28
12. Broomielaw, -	23,433	23,713	23,975	19,758	20,789	146
13. Anderston, -	18,723	18,803	18,773	16,784	15.262	454
14. Sandyford, -	16,568	17,867	17,305	16,654	15,009	376
15. Park, - -	10,733	10,839	12,063	12,841	12,729	311
16. Cowcaddens, -	23,395	21,579	20,958	18,615	16,963	654
17. Woodside, -	15,135	15,306	15,583	13,782	13,519	616
18. Hutchesontown,	20,544	19,470	18,769	17,067	15,985	694
19. Gorbals, - -	17,999	17,451	15,870	15,317	15.325	563
20. Kingston, -	18,018	18,078	18,270	16,640	16,195	573
21. Govanhill, -	14,571	14,866	13,516	12,840	13,284	523
22. Langside, -	9,500	9,374	10,044	10,808	9,400	410
23. Pollokshields, -	8,982	8,918	10.948	10,957	10,909	209
24. Kelvinside, -	7,392	7,341	8,574	9,705	9,175	208
25. Maryhill, -	15,055	14,145	13.967	12,591	11,125	506
26. Kinning Park,	—	18,925	19,113	16,443	15,197	208
Institutions, &c.,	—	—	—	—	—	722
Old City, -	18,289	17,511	16,831	15,163	14,580	12,605
27. Plantation, -	—	—	17,593	15.573	14,309	439
28. Ibrox, - -	—	—	18,653	16.465	15,606	344
29. Govan (Central),	—	—	19,409	16.230	14,523	346
30. Fairfield, - -	—	—	14,114	13,136	13,856	302
31. Partick (East),	—	—	15,755	13,586	12,582	299
32. ,, (Central),	—	—	15,115	13,207	12,426	362
33. ,, (West), -	—	—	13,131	12,422	12,192	283
34 Jordanhill, -	—	—	10,868	10,246	9,540	143
35 Pollokshaws, -	—	—	15,169	12,855	11,319	160
36. Cathcart, -	—	—	10,323	9.928	9,543	144
37. Tollcross and Shettleston, -	—	—	15,106	12,951	13,073	360
Institutions, &c.,	—	—	—	—	—	86
TOTALS— Annexed Area,	—	—	15,454	13,642	13,035	3,268
Greater Glasgow,	—	—	16,618	14,819	14,233	15,873
+ Inward Transfer Deaths, -	—	—	—	—	15,033	16,765

TABLE VII.—GLASGOW.—NUMBER OF OUTWARD AND INWARD TRANSFER DEATHS FOR THE YEARS 1918-1920.

CAUSE OF DEATH.	OUTWARD TRANSFERS.			INWARD TRANSFERS.		
	1918.	1919.	1920.	1918.	1919.	1920.
1. Enteric Fever, ...	1	...	1	3	...	1
2. Typhus Fever, ...	...	...	...	...	...	...
3. Smallpox, ...	...	...	...	...	...	44
4. Measles, ...	...	...	...	...	...	...
5. Scarlet Fever, ...	1	...	2	...	...	...
6. Whooping-cough, ...	...	...	...	1	2	...
7. Diphtheria and M. Croup, ...	3	...	3	...	...	1
8. Croup, ...	...	...	...	...	...	...
9. Influenza, ...	115	71	3	96	31	4
10. Erysipelas, ...	1	...	3	...	...	...
11. Septicæmia, ...	5	6	4	6	...	3
11A Other Septic Diseases, ...	7	4	5	...	1	...
12. Pulmonary Tuberculosis, ...	96	41	20	111	116	135
13. Tuberculous Meningitis, ...	13	6	10	9	3	5
14. Abdominal Tuberculosis, ...	12	13	16	19	15	9
15. Other Tuberculous Diseases,	14	24	14	15	20	9
16. Cancer (Malignant Disease),	162	183	189	34	33	29
17. Rheumatic Fever, ...	2	3	4	1	...	4
18. Alcoholism, ...	...	...	1	...	...	1
19. Cerebro-Spinal Fever, ...	8	...	2	...	...	...
20. Meningitis (not Tuberculous),	4	13	7	4	3	7
21. Cerebral Hæmorrhage (Apopl.)	18	24	13	62	78	85
22. Other Nervous Diseases, ...	37	41	40	216	157	131
23. Organic Heart Diseases, ...	45	69	47	83	96	103
24. Other Circulatory Diseases,	23	29	32	13	20	19
25. Bronchitis, ...	18	20	13	18	35	28
26. Pneumonia (all forms), ...	188	106	65	61	56	59
27. Other Respiratory Diseases,	20	20	18	6	7	12
28. Diarrhœa and Enteritis, ...	22	26	21	38	31	15
29. Appendicitis and Typhlitis,	76	69	69	5	...	1
30. Cirrhosis of the Liver, ...	4	5	4	24	1	...
31. Other Digestive Diseases, ...	106	103	156	16	21	19
32. Nephritis and Bright's Disease,	35	28	34	...	18	16
33. Puerperal Fever, ...	8	4	10	...	1	...
34. Other Accidents and Diseases of Pregnancy and Parturition,	17	18	30	1	1	4
35. Congenital Debility and Malformation, including Premature Birth, ...	22	47	67	19	8	7
36. Violence, ...	215	176	136	43	61	72
37. Unknown, ...	...	...	1	...	...	...
38. All other causes, ...	155	159	177	90	117	69
Totals, ...	1,453	1,308	1,217	994	932	892

TABLE VIII.—GLASGOW.—DEATHS AND DEATH-RATES *per Million* FROM DIFFERENT CAUSES, FOR THE YEAR 1920, AND RATES FOR SEVERAL PERIODS SINCE 1903.

CAUSE OF DEATH.	AVERAGE ANNUAL DEATH-RATE PER MILLION.					DEATHS.
	1903-05.	1906-10.	1911-15.	1916-20.	1920.	1920.
1. Enteric Fever, ...	119	99	57	23	27	30
2. Typhus Fever, ...	11	2	3	5	2	2
3. Smallpox, ...	39	...	...	20	100	112
4. Measles, ...	521	634	595	388	279	311
5. Scarlet Fever, ...	79	121	171	60	53	59
6. Whooping-cough,... ...	765	700	667	398	130	145
7. Diphtheria & Mem. Croup,	128	205	182	144	144	161
8. Croup, ...	64	54	16	3	3	3
9. Influenza,...	*	*	79	769	281	313
10. Erysipelas, ...	*	*	54	34	59	66
11. Septicæmia, ...	157	181	83	34	38	42
11A Other Septic Diseases, ...				24	33	37
12. Pulmonary Tuberculosis,...	1,564	1,440	1,348	1,190	1.062	1,184
13. Tuberculous Meningitis, ...	1,159	1,008	281	200	150	167
14. Abdominal Tuberculosis,			194	159	119	133
15. Other Tuberculous Diseases,			180	162	129	144
16. Cancer (Malignant Disease),	686	803	958	1,029	1,051	1,172
17. Rheumatic Fever. ...	*	*	57	45	51	57
18. Alcoholism, ...	*	*	*	24	31	35
19. Cerebro-Spinal Fever, ...	1,662	264	54	50	52	58
20. Meningitis (not Tuberculous), ...		1,430	204	156	159	177
21. Cerebral Hæmorrhage (Apoplexy), ...			771	763	761	849
22. Other Nervous Diseases,...			710	686	667	744
23. Organic Heart Diseases,...	1,581	1,662	1,774	1,197	1,210	1,349
24. Other Circulatory Diseases,				365	412	460
25. Bronchitis, ...	3,827	†	1,201	980	964	1,075
26. Pneumonia (all forms), ...		1,798	1,656	1,690	1,748	1,949
27. Other Respiratory Diseases,		1,651	301	242	240	268
28. Diarrhœa and Enteritis, ...	824	429	722	520	437	487
29. Appendicitis and Typhlitis,	*	*	626	89	92	103
30. Cirrhosis of the Liver, ...	*	*		35	40	45
31. Other Digestive Diseases,	*	*		448	499	557
32. Nephritis and Bright's Disease, ...	*	*	*	514	470	524
33. Puerperal Fever, ...	*	*	64	56	74	83
34. Other Accidents and Diseases of Pregnancy and Parturition, ...	*	*	*	90	100	112
35. Congenital Debility and Malformation. including Premature Birth, ...	*	*	*	989	1,188	1,323
36. Violence, ...	548	528	620	569	671	748
37. Unknown, ...	*	*	*	23	5	6
38. All other Causes,... ...	4,555	4,603	3,496	1,460	1,502	1,675
Total, ...	18,289	17.612	17,124	15,633	15,033	16,765

* Included in "All Other Causes."

† Included in "Other Respiratory Diseases."

TABLE IX.—Glasgow, 1920.—DEATHS from Different Diseases in Sexes and at several Age-Periods.

Disease.	Males.													Total Males.	Females.													Total Females.	Grand Total.
	-1	-2	-5	-10	-15	-20	-25	-35	-45	-55	-65	-75	75+		-1	-2	-5	-10	-15	-20	-25	-35	-45	-55	-65	-75	75+		
1. Enteric Fever, ...	—	—	1	1	—	—	—	2	4	4	1	—	—	13	—	—	—	2	—	5	3	3	3	—	—	—	—	16	29
2. Typhus Fever, ...	—	—	—	—	—	—	—	1	1	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
3. Smallpox, ...	2	—	3	3	1	2	1	1	5	10	3	2	—	33	5	1	3	5	1	1	2	3	6	5	2	1	—	35	68
4. Measles, ...	61	63	31	3	—	—	—	—	—	—	—	—	—	158	50	61	36	6	—	—	—	—	—	—	—	—	—	153	311
5. Scarlet Fever, ...	1	5	14	10	—	2	—	—	—	—	—	—	—	32	—	5	8	7	3	1	—	1	—	1	1	—	—	27	59
6. Whooping-cough, ...	27	26	11	2	—	—	—	—	—	—	—	—	—	66	42	21	10	6	—	—	—	—	—	—	—	—	—	79	145
7. Diphtheria and Membranous Croup, ...	15	17	24	22	2	1	1	2	—	—	2	—	—	86	5	14	28	21	2	1	1	2	—	—	—	—	—	74	160
8. Croup, ...	1	—	—	2	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
9. Influenza, ...	11	6	1	4	—	11	10	22	26	30	29	11	4	165	6	8	3	3	1	8	18	27	18	14	21	10	7	144	309
10. Erysipelas, ...	11	1	1	—	—	—	—	2	7	6	5	2	5	40	5	—	—	—	—	2	—	2	2	4	7	3	1	26	66
11. Septicaemia, ...	10	1	1	1	—	1	2	2	1	1	1	—	—	21	4	1	2	1	2	1	1	2	2	1	1	—	—	18	39
11A. Other Septic Diseases, ...	5	2	—	—	—	—	—	2	2	3	2	4	2	22	3	—	—	—	—	2	2	—	2	1	2	2	1	15	37
12. Pulmonary Tuberculosis, ...	8	7	11	14	15	44	54	115	125	118	58	16	2	587	2	4	6	17	24	53	49	117	92	63	27	6	2	462	1,049
13. Tuberculosis Meningitis, ...	26	12	17	12	6	5	2	1	1	—	—	—	—	82	15	10	18	13	13	5	5	1	—	—	—	—	—	80	162
14. Abdominal Tuberculosis, ...	12	5	10	11	6	6	2	6	3	1	1	—	—	63	6	4	5	15	8	11	4	5	2	1	—	—	—	61	124
15. Other Tuberculous Diseases, ...	5	8	8	12	11	10	6	6	4	8	6	2	—	86	4	3	7	4	4	4	7	1	3	7	2	3	—	49	135
16. Cancer (Malignant Disease), ...	2	1	1	1	—	5	1	11	40	112	188	138	34	534	2	—	1	—	2	—	1	17	79	138	169	129	71	609	1,143
17. Rheumatic Fever, ...	—	—	—	4	2	1	1	6	4	4	2	3	—	27	—	—	—	2	9	1	—	2	2	3	1	3	3	26	53
18. Alcoholism, ...	—	—	—	—	—	—	—	1	5	9	7	—	—	22	—	—	—	—	—	—	—	2	4	4	2	—	—	12	34
19. Cerebro-Spinal Fever, ...	7	4	4	6	4	5	1	—	2	1	1	—	—	35	6	4	2	2	6	1	1	—	1	—	—	—	—	23	58
20. Meningitis (not Tubercular). ...	39	18	13	9	4	3	1	1	1	2	2	1	—	94	33	9	10	8	4	2	1	4	3	2	—	—	—	76	170
21. Cerebral Hæmorrhage (Apopl.),	1	—	—	—	—	3	1	2	14	40	107	144	67	379	—	—	—	1	—	1	1	5	16	45	108	119	89	385	764
22. Other Nervous Diseases, ...	75	15	2	9	4	10	7	17	30	43	48	64	21	345	58	9	8	5	—	6	6	13	25	24	28	52	34	268	613
23. Organic Heart Disease, ...	1	1	1	4	8	15	7	32	43	101	168	147	64	592	1	1	3	5	7	9	12	44	43	89	153	168	119	654	1,246
24. Other Circulatory Diseases, ...	1	—	1	5	—	3	—	10	15	31	60	62	50	238	3	1	1	—	3	2	4	10	17	27	43	38	54	203	441
25. Bronchitis, ...	140	23	4	6	—	2	1	9	32	48	110	113	64	552	97	17	11	2	—	2	3	3	16	39	82	105	118	495	1,047
26. Pneumonia (all forms), ..	317	147	46	18	8	22	30	64	89	107	120	78	25	1,071	255	133	43	22	7	18	24	49	59	60	55	58	36	819	1,890
27. Other Respiratory Diseases, ...	28	4	2	2	—	1	2	5	13	23	26	24	6	136	19	6	4	3	1	1	3	6	7	11	20	15	24	120	256
28. Diarrhœa and Enteritis, ...	191	20	16	—	2	1	1	—	—	2	8	8	5	254	149	15	10	2	1	—	1	4	3	2	8	8	15	218	472
29. Appendicitis and Typhlitis, ...	—	—	3	11	9	11	3	3	4	7	2	6	—	59	1	—	—	8	6	6	6	3	2	5	3	1	2	43	102
30. Cirrhosis of the Liver,... ...	1	—	—	—	—	—	—	—	3	7	10	5	1	27	—	—	—	—	—	—	—	—	4	4	8	2	—	18	45
31. Other Digestive Diseases, ...	53	4	7	3	4	8	8	23	26	47	45	26	12	266	48	4	8	5	1	7	9	14	34	27	37	55	23	272	538
32. Nephritis and Bright's Disease,	1	—	6	2	1	2	3	9	25	66	94	66	32	307	1	—	1	1	—	3	4	20	21	34	47	44	25	201	508
33. Puerperal Fever, ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	15	44	21	—	—	—	—	83	83
34. Other Accidents and Diseases of Pregnancy and Parturition,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	8	61	36	2	—	—	—	108	108
35. Congenital Debility and Malformation, including Premature Birth, ...	748	2	3	—	1	—	—	—	—	—	—	—	—	754	559	2	—	—	—	—	—	1	—	—	—	—	—	562	1,316
36. Violence, ...	16	12	33	32	9	28	33	45	71	86	74	29	13	481	17	10	22	14	4	3	9	8	13	25	23	25	22	195	676
37. Unknown, ...	1	—	—	—	—	—	—	—	—	2	—	1	—	4	2	—	—	—	—	—	—	—	—	—	—	—	—	2	6
38. All others, ...	118	8	9	7	9	11	8	18	50	82	119	178	196	813	100	10	8	8	6	10	7	30	54	58	89	135	278	793	1,606
All Causes, ...	1,935	412	284	216	106	213	186	418	646	1,001	1,299	1,130	603	8,449	1,498	353	258	188	115	170	207	504	590	696	939	982	924	7,424	15,873
Inward Transfer Deaths, ...	18	5	10	5	7	17	25	46	66	96	78	78	32	483	20	6	9	3	11	12	11	37	57	58	63	70	52	409	892
Total, ...	1,953	417	294	221	113	230	211	464	712	1,097	1,377	1,208	635	8,932	1,518	359	267	191	126	182	218	541	647	754	1,002	1,052	976	7,833	16,765

	DISEASE.	Poor Law Institutions.	Model Lodging-houses.	General Hospitals.	Infectious Diseases Hospitals.	Homes for Old Men, Women, and Orphans, &c., Barracks, Asylums, Prisons, and Harbour.	Total.
26	1. Enteric Fever, ...	...	...	...	...	...	...
1	2. Typhus Fever, ...	...	...	...	...	...	...
68	3. Smallpox, ...	2	4	...	...	...	6
77	4. Measles, ...	2	...	...	2	...	4
52	5. Scarlet Fever, ...	...	...	...	1	...	1
37	6. Whooping-cough, ...	1	...	...	1	...	2
150	7. Diphtheria and Membranous Croup, ...	...	...	1	1	1	3
...	8. Croup, ...	...	...	...	...	...	...
101	9. Influenza, ...	...	3	1	...	...	4
54	10. Erysipelas, ...	3	1	...	2	...	6
26	11. Septicæmia, ...	...	1	1	1	...	3
26	11A Other Septic Diseases, ...	...	4	...	...	...	4
545	12. Pulmonary Tuberculosis, ...	8	60	...	...	5	73
61	13. Tuberculous Meningitis, ...	...	...	...	...	1	1
47	14. Abdominal Tuberculosis, ...	...	1	1	...	...	2
70	15. Other Tuberculous Diseases, ...	6	4	2	...	1	13
417	16. Cancer (Malignant Disease), ...	5	37	4	...	8	54
20	17. Rheumatic Fever, ...	...	1	...	...	...	1
9	18. Alcoholism, ...	...	7	...	...	...	7
50	19. Cerebro-spinal Fever, ...	...	...	...	1	...	1
48	20. Meningitis (not Tubercular), ...	1	...	...	...	...	1
189	21. Cerebral Hæmorrhage (Apoplexy)	4	17	2	...	10	33
242	22. Other Nervous Diseases, ...	11	16	2	...	5	34
318	23. Organic Heart Disease, ...	2	50	5	...	18	75
146	24. Other Circulatory Diseases, ...	5	10	2	...	13	30
155	25. Bronchitis, ...	4	38	1	...	8	51
630	26. Pneumonia (all forms), ...	10	49	10	2	12	83
74	27. Other Respiratory Diseases, ...	2	9	...	...	3	14
94	28. Diarrhœa and Enteritis, ...	3	...	1	1	1	6
95	29. Appendicitis and Typhlitis, ...	...	1	3	1	3	8
18	30. Cirrhosis of the Liver, ...	...	2	...	...	1	3
260	31. Other Digestive Diseases, ...	2	6	4	...	5	17
257	32. Nephritis and Bright's Disease, ...	8	46	1	...	5	60
72	33. Puerperal Fever, ...	...	...	1	...	...	1
69	34. Other Accidents and Diseases of Pregnancy and Parturition, ...	1	...	...	...	...	1
331	35. Congenital Debility and Malformation, including premature birth, ...	17	3	14	4	5	43
368	36. Violence, ...	2	19	3	...	22	46
1	37. Unknown,...	...	1	...	...	...	1
397	38. All others, ...	15	69	7	1	24	116
5,601	All Causes, ...	114	459	66	18	151	808

TABLE XII.—GLASGOW.—DEATHS UNDER 1 YEAR, AND DEATH-RATE PER 1,000 BIRTHS IN EACH MUNICIPAL WARD, FOR THE YEAR 1920, AND FOR SEVERAL PERIODS SINCE 1903.

MUNICIPAL WARDS.	AVERAGE ANNUAL DEATH-RATE UNDER 1 YEAR PER 1,000 BIRTHS.				RATE.	DEATHS – 1 YEAR.
	1903-05.	1906-10.	1911-15.	1916-20.	1920.	1920.
1. Dalmarnock, ...	143	146	146	117	114	246
2. Calton, ...	176	152	169	126	122	172
3. Mile-end, ...	149	141	156	127	123	225
4. Whitevale, ...	153	146	161	119	106	129
5. Dennistoun, ...	93	91	84	77	87	78
6. Springburn, ...	139	121	127	111	104	189
7. Cowlairs, ...	121	113	129	102	99	110
8. Townhead, ...	140	134	150	123	124	147
9. Blackfriars, ...	166	158	170	153	131	90
10. Exchange, ...	122	158	208	128	33	1
11. Blythswood, ...	264	95	106	101	91	4
12. Broomielaw, ...	168	172	181	130	121	32
13. Anderston, ...	150	136	140	101	108	110
14. Sandyford, ...	147	154	152	117	100	72
15. Park, ...	91	83	88	84	84	35
16. Cowcaddens, ...	183	162	155	144	114	155
17. Woodside, ...	123	114	132	103	101	135
18. Hutchesontown, ...	142	131	142	125	108	170
19. Gorbals, ...	141	137	137	127	114	120
20. Kingston, ...	143	149	136	127	118	131
21. Govanhill, ...	111	105	104	97	106	124
22. Langside, ...	64	59	62	52	40	33
23. Pollokshields, ...	71	57	57	62	101	20
24. Kelvinside, ...	75	47	43	39	38	11
25. Maryhill, ...	110	98	104	95	74	108
26. Kinning Park, ...	...	136	142	130	109	56
— Institutions and Harbour, ...	...	...	...	...	...	69
Old City, ...	139	129	135	115	108	2,772
27. Plantation, ...	...	...	128	113	96	94
28. Ibrox, ...	...	...	142	122	120	90
29. Govan Central, ...	...	...	149	123	108	90
30. Fairfield, ...	..	...	97	93	93	54
31. Partick East, ...	...	...	121	105	89	52
32. ,, Central, ...	...	...	122	101	87	73
33. ,, West, ...	...	...	114	94	90	54
34. Jordanhill, ...	...	...	91	76	49	16
35. Pollokshaws, ...	...	...	99	89	64	25
36. Cathcart, ...	...	...	68	60	71	19
37. Shettleston and Tollcross, ...	...	...	129	101	109	94
— Institutions and Harbour, ...	..	...	...	...	...	...
Added Area, ...	...	...	120	103	94	661
Greater Glasgow, ...	...	...	133	112	105	3,433
+ Inward Transfer Deaths,	...	...	...	...	106	3,471

TABLE XIII.—GLASGOW, 1920.—MALE INFANT DEATHS AT GIVEN AGES AND FROM SEVERAL CAUSES.

Cause of Death.	Age in Weeks.				Total.	Age in Months.											Total.	Group Totals.	Group Percentages.	Death-rate per 1,000 Male Births.
	-1	-2	-3	-4		-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12				
I. IMMATURITY, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	**760**	**39·3**	**44**
(*a*) Premature Birth, ...	228	42	29	12	311	14	6	2	3	...	...	1	...	...	...	...	337	...	...	...
(*b*) Congenital Malformations, ...	28	8	5	2	43	8	8	4	...	1	1	1	3	...	1	...	70	...	...	...
(*c*) Atelectasis, ...	8	3	...	1	12	...	...	...	...	...	...	...	...	...	...	...	12	...	...	...
(*d*) Atrophy and Debility, ...	100	37	42	26	205	50	45	15	10	7	5	2	2	...	...	...	341	...	...	...
II. DISEASES OF RESPIRATORY SYSTEM,	5	14	15	20	54	48	46	49	45	34	37	39	40	34	31	28	485	**485**	**25·1**	**29**
III. DISEASES OF DIGESTIVE SYSTEM—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	**245**	**12·7**	**15**
(*a*) Diarrhœal, ...	5	2	2	4	13	20	40	26	21	13	10	13	8	6	16	5	191	...	...	...
(*b*) Others, ...	1	2	2	2	7	10	7	3	4	7	4	4	1	2	2	3	54	...	...	...
IV. DISEASES OF NERVOUS SYSTEM, ...	11	4	5	3	23	13	16	8	9	6	8	6	9	8	7	2	115	**115**	**5·9**	**7**
V. TUBERCULOUS DISEASES, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	**51**	**2·6**	**3**
(*a*) Abdominal Tuberculosis, ...	...	...	...	2	2	2	1	1	3	...	...	...	1	...	1	1	12	...	...	...
(*b*) Tubercular Meningitis, ...	...	...	...	...	...	2	1	4	2	4	...	6	4	1	1	1	26	...	...	...
(*c*) Other Forms, ...	...	...	...	...	...	...	...	1	1	1	1	3	...	1	2	3	13	...	...	...
VI. ACCIDENTS OF BIRTH.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	**22**	**1·1**	**1**
(*a*) Injury, ...	18	1	...	...	19	...	...	...	...	...	...	...	...	...	...	...	19	...	...	...
(*b*) Umbilical Hæmorrhage, ...	3	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...
VII. INFECTIOUS DISEASES, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	**126**	**6·5**	**7**
(*a*) Whooping-cough, ...	...	...	...	...	...	2	4	1	2	...	...	4	3	3	3	5	27	...	...	...
(*b*) Measles, ...	...	...	...	...	...	...	1	1	1	1	3	5	11	9	18	11	61	...	...	...
(*c*) Scarlet Fever, ...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...
(*d*) Cerebro-Spinal Fever, ...	...	...	...	...	...	1	1	...	2	...	..	1	...	1	...	1	7	...	...	...
(*e*) Erysipelas, ...	...	1	1	3	5	3	3	...	...	...	...	...	...	...	...	...	11	...	...	...
(*f*) Diphtheria and Memb. Croup,	...	...	...	...	...	1	...	...		...	...	4	2	2	5	1	15	...	...	...
(*g*) Chicken-pox, ...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	2	...	...	...
(*h*) Smallpox, ...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	2	...	...	...
VIII. SYPHILIS, ...	1	1	4	1	7	3	4	...	2	2	1	...	...	1	...	...	20	**20**	**1·0**	**2**
IX. SUFFOCATION, ...	...	...	...	1	1	1	...	3	...	...	...	...	...	...	...	...	5	**5**	**·3**	...
X. OTHER VIOLENCE, ...	4	...	...	...	4	...	...	...	1	...	1	1	1	1	1	1	11	**11**	**·6**	**1**
XI. ALL OTHER CAUSES, ...	17	3	6	5	31	17	12	5	3	1	3	4	7	6	4	2	95	**95**	**4·9**	**6**
	429	118	111	82	740	196	196	124	110	77	74	94	92	75	92	65	1,935	**1.935**	**100·0**	**115**

TABLE XIV.—Glasgow, 1920.—FEMALE Infant Deaths at Given Ages and from Several Causes.

Cause of Death.	Age in Weeks.				Total.	Age in Months.											Total.	Group Totals.	Group Percentages.	Death-rate per 1,000 Female Births.
	-1	-2	-3	-4		-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12				
I. Immaturity, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	573	38·3	35
(*a*) Premature Birth, ...	196	37	16	9	258	14	5	1	...	1	...	...	...	1	...	...	280	...	...	...
(*b*) Congenital Malformations, ...	21	8	4	...	33	6	5	2	2	1	2	3	1	3	2	...	60	...	...	...
(*c*) Atelectasis, ...	11	...	1	...	12	...	2	...	...	...	...	...	...	...	...	...	14	...	...	...
(*d*) Atrophy and Debility, ...	60	25	22	9	116	39	29	13	7	5	1	6	...	1	2	...	219	...	...	...
II. Diseases of Respiratory System,	...	13	10	6	29	52	28	35	31	33	37	27	30	21	26	22	371	371	24·8	23
III. Diseases of Digestive System,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	198	13·2	12
(*a*) Diarrhœal, ...	...	1	2	5	8	10	18	23	22	18	14	5	7	12	6	6	149	...	...	...
(*b*) Others, ...	5	5	4	2	16	5	4	7	6	3	2	2	2	...	1	1	49	...	...	...
IV. Diseases of Nervous System, ...	6	2	6	4	18	9	10	5	16	4	4	9	4	4	7	1	91	91	6·1	6
V. Tuberculous Diseases, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	27	1·8	2
(*a*) Abdominal Tuberculosis, ...	...	...	...	...	...	...	1	1	2	1	...	...	...	1	...	...	6	...	...	...
(*b*) Tubercular Meningitis, ...	...	1	...	1	2	1	2	...	2	1	1	2	...	1	2	1	15	...	...	...
(*c*) Other Forms, ...	...	...	...	...	...	...	1	1	...	1	1	...	...	1	...	1	6	...	...	...
VI. Accidents of Birth, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	1·0	1
(*a*) Injury, ...	8	2	...	...	10	1	...	...	...	...	...	...	...	...	...	...	11	...	...	...
(*b*) Umbilical Hæmorrhage, ...	3	...	...	...	3	...	1	...	...	...	...	...	...	...	...	...	4	...	...	...
VII. Infectious Diseases, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	116	7·7	7
(*a*) Whooping-cough, ...	...	...	...	...	...	2	4	5	2	7	3	2	3	4	2	8	42	...	...	...
(*b*) Measles, ...	...	...	...	...	...	...	...	2	2	1	5	8	6	7	11	8	50	...	...	...
(*c*) Scarlet Fever, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(*d*) Cerebro-Spinal Fever, ...	...	...	...	...	...	...	1	1	...	...	1	2	...	1	...	...	6	...	...	...
(*e*) Erysipelas, ...	...	...	2	...	2	...	2	1	...	...	...	...	...	...	...	...	5	...	...	...
(*f*) Diphtheria and Memb. Croup,	...	...	...	...	...	...	...	...	...	1	1	1	...	...	1	1	5	...	...	...
(*g*) Chicken-pox, ...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	1	3	...	...	...
(*h*) Smallpox, ...	...	...	...	...	...	...	1	1	...	1	1	1	...	...	...	...	5	...	...	...
VIII. Syphilis, ...	1	...	2	...	3	9	5	2	1	1	...	1	1	1	...	...	24	24	1·6	1
IX. Suffocation, ...	1	...	...	...	1	2	...	2	...	...	...	...	...	...	...	...	5	5	·3	...
X. Other Violence,...	6	1	...	...	7	...	...	1	...	...	...	...	...	...	2	2	12	12	·8	1
XI. All Other Causes, ...	11	2	7	6	26	9	7	5	4	3	...	5	1	2	1	3	66	66	4·4	4
	329	97	76	42	544	159	126	108	97	84	73	74	55	60	63	55	1,498	1,498	100·0	92

TABLE XV.—GLASGOW, 1918-1920.—ABSTRACT OF NOTIFICATIONS UNDER NOTIFICATION OF BIRTHS ACT, 1907, AND RESULTS OF VISITS.

	1918.	1919.	1920.
Total Number of Notifications, ...	24,327	27,328	33,982
Doctor at Home, ...	7,677	8,284	10,423
Doctor in Institution, ...	1,523	1,963	2,906
Maternity Hospital (Outdoor) Nurse, ...	1,555	2,143	3,173
Other Institutional Nurse, ...	702	604	537
Certified Midwife, ...	12,311	13,903	16,436
Others, ...	559	431	507
Total Cards issued, ...	16,650	19,044	23,559
Total Cards returned, ...	16,574	18,286	23,861
Full Information, ...	15,586	16,958	22,216
Doctor found in attendance, ...	248	167	177
Duplicates, ...	8	1	—
Wrong Address—Not Traced, ...	2	5	1
Others, ...	730	1,155	1,467

TABLE XVI.—GLASGOW, 1918-1920.—BIRTHS NOTIFIED SHOWING MEDICALLY AND NOT MEDICALLY ATTENDED.

	1918.	1919.	1920.
Notifications Received—*less Duplicates*—			
Total, ...	24,319	27,327	33,982
Live-births, ...	23,415	26,227	32,697
Still-births, ...	904	1,100	1,285
Per cent. Still-births to Total, ...	3·7	4·0	3·8
Medically attended—			
Total Births at Home, ...	7,677	8,284	10,423
In Institutions, ...	1,523	1,963	2,906
Total, ...	9,200	10,247	13,329
Per cent., ...	37·8	37·5	39·2
Still-births at Home, ...	234	318	382
Still-births in Institutions, ...	203	303	315
Not Medically attended—			
Maternity Hospital, Outdoor Nurse, ...	1,554	2,142	3,173
Other Institutional Nurses, ...	702	604	537
Certified Midwives, ...	12,310	13,903	16,436
Others, ...	553	431	507
Total, ...	15,119	17,080	20,653
Per cent., ...	62·2	62·5	60·8
Still-births.	467	479	588

TABLE XVII.—Glasgow, 1918-1920.—Cases of Infectious Disease Registered and Numbers Treated in Hospital.

TABLE XVIII.—Glasgow, 1914-1920.—Case-Rates *per Million* for Infectious Diseases.

1918.		1919.		1920			Case-Rates per Million.						
Hosp.	Home.	Hosp.	Home.	Hosp.	Home.		1914	1915	1916	1917	1918	1919	1920
						A.—Notifiable—							
55	...	32	1	9	...	Fevers:—Typhus,	18	9	17	1	49	30	8
131	11	106	9	211	16	Enteric,	340	248	158	82	128	103	204
12	1	9	...	15	...	Continued and Undefined,	7	5	8	4	12	8	13
150	18	146	36	218	80	Puerperal,	206	175	178	148	151	163	267
1	...	6	..	530	2	Smallpox,	...	...	...	...	1	5	477
1,239	88	2,582	142	3,569	198	Scarlet Fever,	5,337	5,973	3,719	1,634	1,193	2,443	3,378
1,476	58	1,722	90	1,920	97	Diphtheria and Membranous Croup,	1,440	1,257	1,220	1,146	1,379	1,626	1,809
273	444	374	542	489	601	Erysipelas,	1,459	1,403	989	752	644	822	977
...	...	...	1	...	...	Cholera,	...	...	...	...	...	1	...
58	17	76	4	82	3	Cerebro-Spinal Fever,	45	167	131	75	67	72	76
92	478	107	624	75	712	Ophthalmia Neonatorum,	422	399	521	603	512	656	706
7	44	4	83	18	59	Trachoma.	37	110	65	84	46	78	69
...	...	2	...	52	11	Acute Encephalitis Lethargica,	...	..	...	...	...	2	56
6	5	21	9	1	2	Acute Polio-Encephalitis,	...	...	...	...	10	27	3
6	14	6	14	3	1	Acute Poliomyelitis,	...	...	...	...	18	18	4
...	...	230	778	1,440	2,590	Acute Primary Pneumonia,	...	.	...	...	...	904	3,614
...	...	...	...	267	233	Acute Influenzal Pneumonia,	...	...	...	...	...	...	448
...	...	87	1,341	34	1,030	Malaria,	...	...	...	...	...	1,281	954
1	...	13	104	10	71	Dysentery.	...	1	...	...	1	105	73
...	...	...	12	...	...	Trench Fever,	...	...	...	...	...	11	...
862	1,651	798	1,246	295	1,945	Pulmonary Tuberculosis,	2,284	2,169	2,285	2,435	2,258	1,834	2,009
231	1,186	291	916	209	976	Other Forms of Tuberculosis.	1,088	1,375	1,270	1,433	1,273	1,083	1,063
						B.—Not Notifiable—							
810	7,820	725	8,314	610	11,187	Measles,	9,624	12,592	9.529	11,729	7,756	8.107	10,577
189	209	62	114	42	240	German Measles,	140	108	436	982	358	158	253
439	3,599	454	6,255	177	2.494	Whooping-cough,	6,071	6,984	1,536	9,974	3,629	6,020	2,395
81	2,683	90	2,492	146	5,456	Chickenpox,	3,921	3,692	3,893	2,769	2,484	2,316	5,023
535	...	932	4	210	173	Influenza,	...	...	...	...	481	840	343
115	...	10	...	7	1	Mumps,	...	...	29	103	103	9	7
2	...	2	...	...	...	Cancrum Oris,	...	...	1	4	2	2	...
1[1]	...	2[2]	...	7[3]	1[4]	Others,	1	...	2	5	1	2	7
6,772	18,326	8,889	23,131	10,646	28,179	Totals,	32,440	36,667	25,987	33,963	22,556	28,726	34,813

[illegible] Vincent's Angina, 3; Neurasthenia, 1; Tonsilitis, 1. [4] Epidemic Enteritis, 1.

TABLE XIX.—GLASGOW.—STATUTORY DECLARATIONS OF CONSCIENTIOUS OBJECTION TO VACCINATION IN EACH WARD FROM 1913 TO 1920.

MUNICIPAL WARDS.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
1. Dalmarnock, ...	395	514	457	386	456	377	432	256
2. Calton, ...	153	193	146	172	163	138	217	140
3. Mile-end, ...	358	360	380	368	379	310	406	200
4. Whitevale, ...	178	201	198	192	204	165	251	116
5. Dennistoun, ...	206	222	226	221	214	163	182	113
6. Springburn, ...	516	515	525	544	527	417	453	323
7. Cowlairs, ...	325	304	295	283	262	284	284	207
8. Townhead, ...	179	248	220	229	234	197	189	151
9. Blackfriars, ...	80	91	60	57	83	72	82	54
10. Exchange, ...	...	2	7	6	1	5	8	4
11. Blythswood, ...	4	5	5	6	6	4	10	1
12. Broomielaw, ...	13	19	30	17	20	14	16	23
13. Anderston, ...	156	178	137	138	132	120	134	80
14. Sandyford, ...	79	107	80	70	79	69	73	43
15. Park, ...	42	39	28	44	35	43	50	41
16. Cowcaddens, ...	149	159	158	146	152	143	155	90
17. Woodside, ...	275	309	275	297	308	233	296	127
18. Hutchesontown, ...	333	334	321	351	367	288	317	230
19. Gorbals, ...	161	124	168	123	161	123	110	93
20. Kingston, ...	229	290	243	274	264	242	209	181
21. Govanhill, ...	342	291	326	317	286	232	232	189
22. Langside, ...	199	178	165	169	118	119	107	81
23. Pollokshields, ...	34	36	37	23	14	32	32	15
24. Kelvinside, ...	38	37	41	35	30	36	24	20
25. Maryhill, ...	269	372	375	336	362	277	270	175
26. Kinning Park, ...	155	160	142	140	148	128	146	96
27. Plantation, ...	231	276	244	249	238	240	186	130
28. Ibrox, ...	134	177	202	197	178	160	175	130
29. Govan (Central), ...	245	334	341	346	309	274	291	242
30. Fairfield, ...	276	292	256	278	382	251	239	179
31. Partick (East), ...	72	101	86	56	87	86	94	77
32. ,, (Central), ..	194	239	196	169	199	190	170	126
33. ,, (West), ...	181	205	183	146	165	167	149	106
34. Jordanhill, ...	108	126	105	110	114	97	100	58
35. Pollokshaws, ...	172	186	170	147	132	108	115	117
36. Cathcart, ...	83	98	63	82	73	54	60	26
37. Shettleston & Tollcross,	228	228	159	279	232	188	222	102
Institutions, &c., ...	12	30	12	10	3	3	3	..
City, ...	6,804	7,580	7,062	7,013	7,017	6,049	6,489	4,342

TABLE XX.—HOSPITAL BED ACCOMMODATION FOR INFECTIOUS DISEASES IN GLASGOW SINCE 1865 (EXCLUDING TUBERCULOSIS).

YEAR.	PARISH.			Glasgow Royal Infirmary.	LOCAL AUTHORITY.						Total Beds.	Population in Thousands.	Beds per Thousand.
	City.	Barony.	Govan.		Parliamentary Road.	Belvidere Fever.	Belvidere Small-pox.	Ruchill.	Shieldhall.	Knightswood.			
1865	100	120	54	200	136	...	...	...	...	...	610	428	1·4
1866	100	120	54	175	136	...	...	...	...	...	585	438	1·3
1867	...	120	54	100	136	...	...	...	...	...	410	446	0·9
1869	...	120	54	135	136	...	...	...	...	...	445	464	1·0
1870	...	120	54	100	250	250	...	...	...	...	774	471	1·7
1872	...	120	...	100	250	250	...	...	...	...	720	495	1·4
1875	...	...	...	100	250	250	...	...	...	...	600	500	1·2
1876	...	...	...	...	250	250	...	...	...	...	500	502	1·0
1878	...	...	...	...	120	250	150	...	...	...	520	507	1·0
1880	...	...	...	...	120	250	150	...	...	...	520	510	1·0
1881	...	...	...	...	120	370	150	...	...	...	640	512	1·2
1882	...	...	...	...	120	220	150	...	...	...	490	518	1·0
1887	...	...	...	...	120	390	150	...	...	...	660	545	1·2
1893	...	...	...	...	200	390	150	...	...	...	740	678	1·1
1900	...	...	...	...	200	390	150	440	...	...	1180	744	1·6
1901	...	...	...	...	200	390	220	440	...	...	1250	764	1·6
1906	...	...	...	...	...	390	220	440	...	...	1050	836	1·3
1910	...	...	...	...	...	390	220	542	...	...	1152	884	1·3
1913 *	...	...	...	...	...	390	220	542	100	81	1333	1032	1·3
1915	...	...	...	...	...	390	220	542[1]	100[2]	10[3]	1262	1106	1·1

[1] Also 272 beds for Tuberculosis.
[2] , 24 ,, ,,
[3] ,, 70 ,, ,,

* The City has also a part interest in Lightburn Hospital—about 7-8 beds.
,, ,, ,, Darnley ,, ,, 20 ,,

Institutional Accommodation patients suffering from tuberculosis:—

	Males.	Females.	Total.
(1) SANATORIA—			
(*a*) Local Authority, Ochil Hills, ...	103	—	103
,, Bellefield, ...	—	52	52
(*b*) Others, Bridge of Weir, ...	—	22	22
(*c*) Through Insurance Committee,			
Bridge of Weir, ...	17 average.	26 average.	43 average.*
Dunblane, ...	4	4	8
Total beds in Sanatoria,	124	104	228
(2) HOSPITALS—			
(*a*) Local Authority, Ruchill, ...	136	136	272
,, Knightwood,	80	—	80
,, Shieldhall, ...	24	—	24
,, Darnley, ...	9	9	18
,, Robroyston, ...	224	224	448
(*b*) Through Insurance Committee,			
Lanfine Home, ...	14 average.	11 average.	25 average.*
Total beds in Hospital, ...	487	380	967
(3) POOR LAW INSTITUTIONS, ...	148 average.	60 average.	208 average.*
Total Institutional accommodation, ...	759	544	1,303

* The number is not fixed, these figures are based on an average experience of 12 months.

TABLE XXI.

City of Glasgow Fever and Smallpox Hospitals.

RETURN BY THE MEDICAL OFFICER OF HEALTH

Showing Number, Average Residence, and Cost of Treatment of Patients, 1920-1921.

DINARY NETT EXPENDITURE (as per Treasurer's Statement) excluding Interest and Sinking Fund Charges, and Revenue from treating Phthisis and Infectious Disease Patients from outside Areas, Rutherglen excepted :—

Fever Hospital, Belvidere, ...	£84,102 17 3	
Smallpox Hospital, Belvidere, ...	2,440 15 9	
Fever Hospital, Ruchill, ...	125,818 12 10	
Fever Hospital, Shieldhall, ...	21,079 14 9	
Fever Hospital, Knightswood, ...	15,849 15 7	
Smallpox Hospital, Robroyston, ...	24,067 3 6	
Hospital (Tuberculosis) Robroyston, ...	11,234 13 11	
		£284,593 13 7

erage Daily Number of Patients in Fever Hospital, Belvidere, ...	477
erage Daily Number of Patients in Smallpox Hospital, Belvidere, ...	23
erage Daily Number of Patients in Fever Hospital, Ruchill, ...	763
erage Daily Number of Patients in Fever Hospital, Shieldhall, ...	110
erage Daily Number of Patients in Fever Hospital, Knightswood, ...	82
erage Daily Number of Patients in Robroyston Hospital, ...	94
Average Daily Number of Patients in Hospitals, ...	1,549

	Belvidere Fever Hospital.	Belvidere Smallpox Hospital.	Ruchill Hospital.	Shieldhall Hospital.	Knightswood Hospital.	Robroyston Hospital.	Total.
ients remaining at 31st May, 1920,	327	157	926	88	82	300	1,880
ients admitted during 1920-21,	4,582	160	5,161	762	395	651	11.711
Total under Treatment, 1920-1921,	4,909	317	6,087	850	477	951	13,591
Patients dismissed during 1920-1921,	4.301	317	5,272	772	398	620	11,680
Patients remaining at 31st May, 1921,	608	0	815	78	79	331	1,911

Average Residence of Patients dismissed, ... 46·74 days.

erage Daily Expenditure, ...	£779 14 2
erage Daily Cost per Patient, ...	0 10 0·8
erage Cost of Treatment per Patient, ...	23 10 6·5
erage Cost of Bed per Year, ...	183 14 6·6

*STATEMENT SHOWING PATIENTS CLASSIFIED AS TO DISEASE, AVERAGE RESIDENCE OF PATIENTS DISMISSED, AND AVERAGE COST AT THE DAILY RATE GIVEN ABOVE—

Disease.	No. Dismissed.	Average Residence.	Average Cost.
yphus, ...	7	35·85 days.	£18 10 0·9
mallpox, ...	514	37·10 ,,	18 13 5·9
nteric, ...	197	56·73 ,,	28 11 1·4
nthrax, ...	1	29·00 ,,	14 13 11·4
uerperal, ...	258	24·24 ,,	12 4 0·4
carlet, ...	3,452	47·54 ,,	23 18 7·2
iphtheria, ...	1,857	44·84 ,,	22 11 5·0
olio-encephalitis, ...	16	42·50 ,,	21 7 10·3
olio-myelitis, ...	3	26·33 ,,	13 5 0·8
cute Primary Pneumonia and Influenzal Pneumonia,	1,019	25·38 ,,	12 15 6·1
ropical Diseases, ...	67	20·65 ,,	10 7 10·7
easles and German Measles, ...	528	27·71 ,,	13 18 11·6
hooping-cough, ...	779	34·02 ,,	17 2 5·9
ther Infectious Diseases, ...	2.318	75·61 ,,	38 1 2·2
ll other Diseases, ...	664	26·18 ,,	13 3 6·7
	11,680		

* Includes Phthisis, Erysipelas, Cerebro-Spinal Fever, Chickenpox, and Influenza.
† Includes Nursing Mothers, also Persons sent in by mistaken diagnosis.

TABLE XXII.—Summary of Operations of Sanitary Section for the Year 1920.

District.	Central.	North.	East.	South-East.	South-West.	Year 1920.	1919.
I. Nuisances.							
Total Inspections made for discovery of Nuisances,	192,508	139,381	169,602	163,079	149,314	813,884	671,370
Nuisances discovered and recorded,	16,369	13,766	12,992	10,660	14,225	68,012	70,752
Do. removed or remedied,	15,141	14,047	12,473	10,693	13,028	65,382	67,898
Consisting of Accumulations of Garbage on Roofs, Courts, &c., or in Empty Houses or Cellars, or open wastage,	1,139	469	347	375	642	2,972	2,422
Apartment, Lobby, or W.C. with insufficient light or ventilation,	12	4	5	1	9	31	14
Animals or Poultry kept, so as to cause a nuisance,	3	5	5	3	—	16	23
Bad Smells, or Diphtheria or Enteric Fever in Dwelling,	343	374	231	233	114	1,295	1,069
Dwellings without Water Supply,	227	236	411	426	196	1,496	2,184
Dead Animal Matter under Floor,	3	2	4	3	—	12	4
Defective Window in Dwelling,	56	32	22	34	222	366	111
Domestic Water Supply from Cistern in W.C.; or Cistern in Attic, foul and uncovered,	2	34	—	4	—	40	825
Drains, Soil-pipes, Branches, &c., choked, defective or out of repair,	4,811	5,625	4,828	4,804	4,911	24,979	23,987
External Walls of Dwellings, Stairs, Lobbies, or Closets filthy,	2,040	915	619	1,547	692	5,813	9,253
Internal Walls or Floors of House, or W.C., or Lobbies, or Stairs filthy,	1,440	1,417	2.022	942	2,682	8,503	10,230
House Damp, or otherwise rendered unfit for habitation,	65	114	33	46	41	299	160
Sink, or W.C., or Trap, choked or broken or out of repair,	2,704	2,866	2,587	1,417	2,277	11,851	10,380
Nuisances in Bakehouses,	40	29	24	7	10	110	118
Roofs, Walls, or Ceilings of Dwellings broken or out of repair,	447	270	294	239	520	1,770	889
Rhones, Pipes, or Gutters broken or out of repair,	418	201	368	116	321	1,424	1,191
Smoky Vents, or Back Smoke, causing a nuisance,	151	170	54	96	131	602	361
Sink accommodation defective, or new required,	3	3	—	1	—	7	7
Water-Closet accommodation required,	3	11	13	1	5	33	21
Water-Closet defective in construction,	6	—	3	—	–	9	7
Water Closet accommodation in Workshops defective,	14	8	11	7	3	43	62
Workshops filthy,	216	36	64	36	46	398	692
Workshops overcrowded,	—	—	—		—	—	7
Workshops defective in ventilation or light,	7	6	2	3	13	31	31
Waste of Water reported to the Engineer and remedied,	798	876	331	224	1,007	3,236	2,803
Complaints to Master of Works remedied,	193	344	195	128	310	1,170	1,253
Reported to Procurator-Fiscal for prosecution before the Sheriff,	6	17	2	2	—	27	7
Summoned before the Police Magistrates,	50	19	18	13	—	100	34
Number of Rotation Cards for Cleansing of Common Stairs, Lobbies, and Water-Closets served on Tenants,	1,805	869	659	779	854	4,966	8,177
Pigstyes inspected for Licensing Court,	36	150	66	12	8	272	246
II. Drain Testing.							
Total number of Applications of the test at different times,	731	762	679	521	213	2,906	1,875
Number of new Applications for satisfaction of Dean of Guild Court,	59	47	125	52	36	319	103
Number of old Tenements or Systems to which they were applied for the first time,	309	326	254	270	118	1,277	949
Number of these found all right on first application of Test,	65	61	138	62	34	360	221
Number found more or less defective on first application,	244	265	116	208	84	917	728
III. Houses Let in Lodgings and Farmed-out Houses.							
Number Inspected, Measured, and Registered,	—	8	—	4	—	12	20
Number now on Register, Houses Let in Lodgings,	40	38	5	33	21	137	212
Number now on Register, Farmed-out Houses,	621	183	241	227	75	1,347	1,509
Number of Re-inspections by Day,	1,807	783	842	2,567	689	6,688	8,266
Do. do. by Night,	2,722	721	621	640		4,704	3,860
Do. of Keepers Summoned for Contravening Regulations,	—	1	—	—	—	1	—
Do. do. Fined for same,	—	1	—	—	—	1	—
Amount of Fines,	—	5/-	—	—	—	5/-	—

TABLE XXII.—*(Continued).*

District.	Central.	North.	East.	South-East.	South-West.	Year 1920.	1919.
IV. Female Visitations.							
Number of Houses visited, first time, including Birth Card Visits,	11,978	11,312	12,361	8,678	8,301	52,630	78,502
Number of Houses in which Lodgers were found,	299	856	1,233	950	994	4,332	4,031
Number of Houses and Bedding found Dirty, dealt with by statutory notice,	435	616	875	440	556	2,922	3,544
Number of Houses revisited,	789	1,148	1,131	659	809	4,536	7,579
Number of Houses found improved,	428	415	860	427	507	2,637	4,086
Number of Nuisances reported by Female Inspectors,	—	20	—	176	124	320	441
Number of Infectious Disease Cases reported,	—	—	—	5	1	6	17
Under the Glasgow Corporation (Police) Order, 1904, dealing with Filthy Houses and Dirty or Verminous Children:—							
Number of Visits to Schools,	199	490	337	281	312	1,619	1,639
Number of Children submitted for inspection,	2,891	6,207	6,299	3,969	4,299	23,665	16,461
Number of Children found Verminous,	126	3,155	431	738	1,069	5,519	3,488
Number of Children found Dirty,	40	47	283	299	367	1,036	790
Number of Homes inspected,	1,710	2,826	1,964	945	1,659	9,104	5,964
Number of Homes Re-inspected,	39	90	88	13	107	337	208
Number of Dirty Houses,	47	41	40	5	39	172	129
Number of Dirty Bedding,	36	20	56	11	50	173	105
Number of Notices served,	249	478	779	1,053	1,525	4,084	2,520
Number of Houses Cleaned in consequence,	36	20	22	4	40	122	95
Number of Bedding Cleaned in consequence,	26	6	51	11	31	125	62
Number of Bedding Cleaned at Sanitary Wash-house,	—	—	—	—	—	—	—
Number of Children Cleaned by Guardians,	118	357	700	1,028	1,549	3,752	1,886
Number of Children Cleaned by Officers,	—	—	—	—	—	—	—
Number of Applicants supplied with Insecticide,	566	470	—	—	111	1,147	1,242
Infantile Mortality — Birth Cards dealt with,	—	—	—	—	—	—	—
V. Factories, Workshops, and Home-workers' Dwellings.							
Total number of Workshops on the Registers at 31st December,	2,352	936	1,119	630	604	5,641	6,192
Total Inspections made,	9,785	2,984	4,242	2,602	1,696	21,309	38,591
Apartments Measured and Registered during the Year,	122	46	91	147	24	430	901
Number of Workshops found defective in Light or Ventilation,	6	6	1	2	12	27	31
Number found defective in Water-closet Accommodation,	12	25	12	6	3	58	69
Number requiring Limewashing,	184	30	48	40	46	348	699
Number of other Defects,	214	59	36	31	29	369	840
Number who carried out Improvements suggested by Inspector,	465	113	124	79	21	802	1,531
Prosecutions,	—	—	1	—	—	1	—
Convictions,	—	—	1	—	—	1	—
Number found Overcrowded,	—	—	—	—	—	—	—
Number of Visits made under the Home-work Order,	167	192	164	118	122	763	1,331
Number of Premises found dirty and Intimations issued,	—	—	—	1	—	1	39
VI. Bakehouses.							
Number of Inspections for Cleanliness, &c.,	55	65	145	84	86	435	782
Number of Warnings issued for neglect of Cleanliness,	20	20	16	7	8	71	102
VII. Rag Flock Act, 1911.							
Samples submitted for Analysis.	36	9	30	—	—	75	66
Certified not to conform to Standard,	7	1	5	—	—	13	17
Proceedings instituted,	5	1	1	—	—	7	9
Convictions.	4	—	—	—	—	4	9

TABLE XXII.—(*Continued*).

District.	Central.	North.	East.	South-East.	South-West.	Year 1920.	1919.
VIII. Common Lodging-houses and Boarding-houses for Emigrants and Seamen.							
Common Lodging-houses Inspected, Measured, and Registered, ...	—	—	—	—	—	—	3
Number of Re-inspections by Day, ...	453	260	133	12	262	1,120	1,975
Do. do. by Night, ...	50	15	6	—	6	77	46
Do. Structural Defects found and remedied, ...	—	—	—	—	—	—	—
Do. Intimations of Irregularities to Keepers, ...	51	1	1	—	—	53	323
Do. Keepers summoned for contravening Regulations, ...	—	—	—	—	—	—	—
Do. Keepers fined for contravening Regulations, ...	—	—	—	—	—	—	—
Do. Removed from the Register, ...	2	—	—	—	—	2	1
Total Number of Common Lodging-houses now on Register, ...	19	8	11	2	4	44	43
With Accommodation for	3,624	2,310	2,809	488	1,802	11,033	10,334
Boarding-houses Measured and Registered,	—	—	—	—	—	—	9
Total Number of Boarding-houses, ...	27	—	—	—	1	28	31
With Cubic Capacity for	509	—	—	—	53	562	706
Number of Re-inspections, ...	443	—	—	—	—	443	1,078
Do. Intimations of Irregularities to Keepers, ...	21	1	—	—	—	22	49
IX. Night Inspections							
(Of HOUSES TICKETED under GLASGOW POLICE ACTS, 1866 to 1890.)							
Total Number of Houses ticketed for first time during year, ...	—	—	—	—	—	—	13
Total Number of Ticketed Houses, now on the Registers, ...	3,794	5,743	6,017	1,783	1,683	19,020	19,020
Total Number of Inspections for Detection of Overcrowding, ...	16,087	16,241	11,508	8,189	5,186	57,211	51,675
Total Number of Cases of Overcrowding,	1,244	2,248	915	533	318	5,258	3,246
Total Number warned by Inspectors, ...	1,240	2,213	915	533	318	5,219	3,185
Total Number admonished by Magistrates in Police Courts, ...	3	19	—	—	—	22	50
Total Number fined by Magistrates in Police Courts.	1	16	—	—	—	17	11
Cubic feet of space in worst cases of Overcrowding, instead of 400, only	276	166	—	—	—	166	100
Number of Cases of Overcrowding in houses under 900 cubic feet of space, ...	43	45	17	29	3	137	96
X. Smoke Prevention.							
Glasgow Police (Further Powers) Act, 1892, Sec. 31.							
Number of Inspections of Boiler and other Furnaces, ...						1,156	1,112
" Observations of Chimneys, ..						19,448	20,166
" Intimations of Excess Smoke given, ...						338	322
" Warning Notices to those contravening the Act, ...						44	24
" Prosecutions in Police Courts,						42	40
" Convictions, ...						42	39
" Amount of Fines imposed, ...						£62 7/6	£58 11 6
" Prosecutions withheld from on receiving a promise from Offenders to improve the Furnace Plant, ...						10	12
" Prosecutions withheld from on account of accidents to Furnace Plant, or, regular fireman temporarily off duty,						5	17
" New Steam Boilers installed to give increased power, ...						4	3
" Mechanical Stokers fitted to Metallurgical Furnace, ...						8	4
" Boiler Furnaces fitted with Smoke-preventing Appliances,						1	10
" Furnaces in which Anthracite Coke or other non-bituminous fuel has been substituted for ordinary Coal.						16	9
" Furnaces adapted for use of Oil Fuel, ...						5	—
" Steam Boilers replaced by Electric Motors (using Corporation power), ...						5	2

TABLE XXII.—(*Continued*).

District.	Central.	North.	East.	South-East.	South-West.	Year 1920.	1919.
X. Smoke Prevention (*Continued*).							
Number of New Chimneys erected or existing Chimneys heightened to give increased draught and carry gases higher, ...						5	9
„ Improvements to Furnaces not coming under any of the above headings, ...						—	—
„ Biscuit Baking Ovens formerly Coal fired, reconstructed for use of Corporation gas, ...						3	—
XI. Milk Purveyors.							
Registered during year, ...						231	241
Removed from Register, ...						210	212
On Register at 31st Dec., ...						1,308	1,287
Number of Inspections, ...						18,101	17,429
Contraventions of Orders or Regulations,						102	76
Prosecutions for same, ...						—	1
Repairs or Improvements effected, ...						56	28
XII. Dealers in Ice Cream.							
Registered during the year, ...						114	100
Removed from Register, ...						97	121
On Register at 31st Dec., ...						637	620
Number of Inspections, ...						9,579	7,627
Contraventions of Orders or Regulations,						101	82
Prosecutions for same, ...						1	1
Repairs or Improvements effected,... ...						33	20
XIII. Byres for Milch Cows.							
Number of Dairy Byres as at 31st Dec., ...						51	61
,, Cows licensed for, ...						1,008	1,141
Average number kept, ...						756	836
Number of Inspections, ...						628	748
Contraventions of Rules or Regulations, ...						24	29
Prosecutions for same, ...						—	1
Repairs or Improvements effected, ...						1	1
XIV. Unwholesome Food.							
Number of Inspections, ...						11,261	9,808
,, Lots dealt with, ...						108	196
Nature of Food destroyed at Inspector's instance with Owner's consent—							
Condensed Milk, ... (tins)						—	—
Eggs, ...						510	89,360
Egg Yolk and Pulp, ... (lbs.)						18,072	9
Egg Powder, ... ,,						—	—
Biscuits, ... ,,						957	—
Butter, ... ,,						98	12
Canned Food (various), ... ,,						8,749	22,176
Cheese ... ... ,,						424	—
Cereals, ... ,,						127	1,820
Chocolate, ... ,,						624	210
Cured Meats, ... ,,						1,957	—
Flour, ... ,,						—	—
Fruit (Dried and Soft), ... ,,						20,441	86,645
Margarine, ... ,,						50	—
Pickles, ... ,,						20	23
Preserved Meat, ... ,,						—	9,906
Preserves, ... ,,						155	29
Vegetables, ... ,,						64,630	41,457
Game, ... ,,						—	118
Shell-Fish, ... ,,						—	448
XV. Food and Drugs and Margarine Acts.							
Samples examined by Inspectors, ...						—	—
Informal Samples analysed,...						3,963	3,055
Statutory Samples analysed, ...						1,114	1,244
Statutory Samples found Non-genuine, ...						129	156
Proceedings instituted, ...						68	104
Fines and Expenses imposed, ...						£367 11/	£441 15/6
Non-convictions, ...						8	16

TABLE XXII.—(*Continued*).

District.	Central.	North.	East.	South-East.	South-West.	Year 1920.	1919.
XV. Food and Drugs and Margarine Acts (*Continued*).							
Prosecutions for Margarine Offences, ...						6	10
Fines and Expenses imposed, ...						£9 19/6	£20 5
Non convictions, ...						—	—
False Warranty (Butter), ...						—	1
Fines imposed, ...						—	£20
Obstruction, ...						1	1
Fines imposed, ...						£4 4/	£2 10
XVI. The Sale of Horse-Flesh Regulation Act, 1889.							
Number of premises in which Horse-flesh is sold, ...						4	7
Prosecutions for contravention of Act, ...						—	1
Fines imposed, ...						—	£10 10
XVII. Fish and Game Inspection.							
(Under the Glasgow Police Amendment Act, 1890.)							
Number of Packages of Fish, Game, Poultry, and Rabbits passed through Fish Market,						1,581,199	1,206,542
Number of Inspections of Fish Shops, Restaurants, and Hawkers' Barrows and Carts, ...						964	1,257
Number of Nuisances discovered therein, ...						—	—
Fish and Game destroyed with consent—							
Fresh Fish, ...						172,911	318,451
Cured Fish, ...						41,740	10,808
Shell Fish, ...						—	—
Crabs, ...						—	112
Oysters, ...						—	—
Lobsters, ...						—	2
Rabbits, ...						1,614	1,457
Game, ...						115	397
Poultry, ...						167	48
XVIII. Spraying Dungsteads, Ashpits and Privies.							
Total number of Dungsteads Sprayed from 8th June till 26th September, ...						15,938	18,239
Total Outlay for Wages, Plant, and Material,						£414 10/3	£418 3
XIX.—Interments.							
For year ending 31st May.							
Total number of Applications granted for Interment of Unclaimed and other Bodies, ...						318	324
Total Expenditure, ...						£558 2/3	£534 6/3
Payment of Costs recovered, ...						£125 15/6	109 1 3